

INEQUALITIES AND SOCIAL COHESION IN KENYA: EVIDENCE AND POLICY IMPLICATIONS

**Kenya Institute for Public Policy
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REPORT ON

**Inequalities and Social Cohesion in Kenya: Evidence and Policy
Implications**

By

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Abbreviations/Acronyms

2SLS	Two Stage Least Squares
ACLED	Armed Conflict Location and Events Dataset
AEZ	Agro-Ecological Zones
ASAL	Arid and Semi-Arid Lands
CDF	Constituency Development Fund
ELF	Ethno-Linguistic Fractionalization
GDP	Gross Domestic Product
ICC	International Criminal Court
JICA	Japan International Cooperation Agency
KANU	Kenya African National Union
KAPS	Knowledge Attitudes Practices Survey
KHRC	Kenya Human Rights Commission
KIHBS	Kenya Integrated Household Budget Survey
KIPPRA	Kenya Institute for Public Policy Research and Analysis
KNBS	Kenya National Bureau of Statistics
KITTF2008	Kenya Thabiti Task Force 2008
LATF	Local Authority Transfer Fund
MRQ	Montalvo and Reynal Querol
NARC	National Alliance Rainbow Coalition
NCIC	National Cohesion and Integration Commission
ODM	Orange Democratic Movement
OLS	Ordinary Least Squares
OVC	Orphans and Vulnerable Children
PNU	Party of National Unity
PREG	Politically Relevant Ethnic Group
UNDP	United Nations Development Programme
UNRISD	United Nations Research Institute for Social Development

Part I: Inequalities and Social Cohesion: The Kenyan Experience

1.1 Background

Socio-economic development of a country involves successful interventions that improve, not just the incomes of the population, but also the various widely accepted dimensions of human welfare, such as child and maternal survival and access to basic needs (food, shelter and education). Critically, such welfare improvements should occur across the whole country to enable national welfare averages to also improve. A national government is therefore obliged to ensure the delivery of the services that affect the performance of human welfare across the whole country. While nature often conspires to endow regions within countries differently – such as agro-climatically, a core responsibility of a national government is to distribute its resources in a way that diminishes the impacts of the disparities endowed by nature, to the extent that such disparities can differentiate human welfare attainments across the country. The need to pay attention to resource distribution is heightened in countries where livelihoods are dominated by primary production, as opposed to services or manufacturing. The ineffective management of accumulated resources differentially undermines people's access to private goods, quasi public goods and pure public goods.¹ This perpetuates, and in instances, exacerbates nature-endowed inequalities. Consequently, citizen perceptions and the realities of unequal treatment by the government, and perceptions and realities of unequal welfare outcomes, undermine national cohesion and integration. In turn, this undermines a flagship project of many developing countries, the transformation of the multi-ethnic territorial state inherited from colonialism into a viable nation state.²

During the life of the National Accord that resolved Kenya's 2007/08 post-election violence,³ the Grand Coalition government has undertaken various reforms to address poverty and inequality. The most far-reaching of the reforms was the 2010 promulgation of a new constitution which invokes equity – equal treatment of equals, and appropriately unequal treatment of unequals – in critical areas of society and contains various measures to curb impunity in governance. The Constitution guarantees basic needs and aims to radically transform land management, a

¹ For example, poor roads (pure public good) undermine transport access (private good) to public health care (quasi public good).

² This paper adopts the National Cohesion and Integration Act's definition of 'ethnicity' to include racial, religious, tribal and cultural interactions between various communities. All Kenya legislation is accessible on-line at http://www.kenyalaw.org/kenyalaw/klr_app/frames.php

³ The legal framework is provided by the National Accord and Reconciliation Act (2008).

significant factor for a population predominantly engaged in agriculture livelihoods. It provides for enhanced people participation in governance through a devolved system that delivers *equitable* development resources to the grassroots, while also providing for an Equalisation Fund 'to bring the quality of basic services in marginalized areas to the level generally enjoyed by the rest of the nation, so far as possible'.⁴ Kenya long-term development blueprint, *Kenya Vision 2030*, declares concern over these issues that have undermined national cohesion and integration; yet, good Kenyan intentions have floundered at the feet of weak governance. Thus, while poverty and inequality are insidious phenomena, frameworks are in place in the Constitution to address them substantively in a way that will enhance national cohesion and integration, instilling in, and enabling all citizens to have a sense as well as a feeling that they are members of the same community engaged in a common enterprise, facing shared challenges and opportunities.⁵

⁴ Article 204 (2) of the Constitution.

⁵ See Republic of Kenya/Ministry of Justice, National Cohesion and Constitutional Affairs (2012), paragraph 13.

2. *Characteristics of Kenyan Inequality*

The literature provides much evidence of the significance of social cohesion to national development; and Kenya's history contains many illustrations of the adverse consequences of weak cohesion and integration on socio-economic development. Kenya has widely varied agro-ecological zones [AEZ] that have been significant for the manner in which the country has developed since its colonization in 1920s.⁶ Prior to the country's colonization, migrations of ethnic groups were often driven by the search for improved livelihoods, resulting in inter-ethnic conflicts. The same conflicts and the suspicions festering around them became a tool in the hands of the colonizer in acquiring land for colonial settlement: the colonizer acquired the land of one ethnic group in return for protection for it against other ethnic groups. Furthermore, colonial policy deterred the movement of indigenous Kenyans across the country by creating 'native reserves', such that the resulting administrative districts perpetuated ethnic enclaves.⁷ Since settler agriculture was designed to sustain the colony and its flagship project, the Uganda railway line, the medium to high potential land expropriated for it monopolized the extensive colonial infrastructure investments, while the rest of the country was overlooked. Thus, on the eve of independence, Kenya was a country of glaring socio-economic inequalities: the higher agriculture potential areas of the country had the bulk of social and physical infrastructure, while the rest of the country had nearly none. This meant that the peoples who inherited the areas previously occupied by the departing settlers – dubbed the 'White Highlands' – had a development head start on the rest of the Kenyans.⁸

Thus, the assertion by the independence development blue-print, Sessional Paper No. 10 of 1965, that the government would concentrate scarce development resources in areas with the highest absorptive capacity (Republic of Kenya, 1965), became a recipe for further balkanization

⁶ One classification of Kenya's AEZs lists the following: I–Agro-Alpine; II–High Potential; III–Medium Potential; IV–Semi-Arid; V–Arid; VI–Very arid; VII–Deserts; and VIII–Rest (waters etc).

⁷ Kimenyi (n.d.) illustrates that the Kikuyu account for 91.8% of the population of their 'ancestral' Central Province homeland, with the Luhya accounting for 84% of their own Western province homeland. Other regions do not have such large indigenous populations, but it is often possible to distinguish the 'indigenous' ethnic group.

⁸ Wasike (2001: 24) notes that while the colonial government had recognized the need for physical infrastructure, district councils had to construct these from cess on agriculture produce, the Ministry of Roads and Public Works only advising and consulting on intended projects, even as individual ministries used their own budgets to finance their road needs. This suggests weak or entirely non-existent infrastructure development in areas without scope for cess, or those overlooked by line ministries.

of Kenya into developing and overlooked areas,⁹ since an adequate framework was not instituted for the redistribution the Sessional Paper had also proposed. Thus, the Kenyans of the arid and semi-arid lands [ASAL] are largely constrained to be (nomadic) pastoralists, not ranchers, even as any agricultural effort in the former White Highlands takes place in the market economy. Besides the exacerbated regional disparities, independent Kenya also soon acquired class differentiation, prompting an observation that the country had '10 millionaires and 10 million beggars'.¹⁰

By 1965, Kenya's independence multiparty state had become a de facto single party state, opposition party Kenya African Democratic Union [KADU] voluntarily 'crossing the floor', which arguably suggested greater national political cohesion. However, the underlying disgruntlement with the country's apparent political priorities would soon lead to a major falling out at the top of government.¹¹ These differences resulted in the 1966 creation of the opposition Kenya People's Union party which was however proscribed three years later due to growing political intolerance. The struggles against growing socio-economic inequalities became muted, kept firmly under the lid by successive repressive governments in a de facto single party context. That the 1978 change of guard at State House on founding President Kenyatta's death, failed to address persisting disgruntlement was manifest in the 1982 attempted coup which elicited further repression from the four-year old Moi government. The country's mid-1980s erratic espousal of structural adjustment programmes arguably deepened inequalities as liberalization undermined access to basic public services, such as by discontinuing free or subsidized public health care, education and water. Initiatives aimed at poverty and inequality reduction have abounded during Kenya's independence years; but these have been at best cosmetic, such that poverty fluctuated, standing at 46 per cent in 1992, 38.8 per cent in 1994, 56.8 per cent in 2000, and 45.9 per cent in 2005/06, these estimates being based on successive household surveys. Urban poverty rarely breached the 30% level throughout these years; but rural poverty never fell below 40%. Disparities across administrative areas were even more graphic: while 23 per cent of Kiambu district households lived below the poverty line based on the Kenya Integrated Household Survey 2005/06 [KIHBS], the rate was 80 per cent for Kuria district.¹²

⁹ World Bank (2010) aptly characterizes these respectively as 'leading' and 'lagging' areas.

¹⁰ This statement was made by the populist Kenyan politician, J.M. Kariuki, whose March 1975 assassination was linked by a parliamentary commission of inquiry to key national security officers. For an exposition on 'millionaires and beggars', see Githinji (2000).

¹¹ See Odinga (1966).

¹² These large disparities in absolute poverty do not reflect the extent of comparative deprivation of opportunity: Kuria is predominantly AEZ IV while Kiambu is largely AEZs II and only marginally III

Against the backdrop of Sessional Paper No. 10's bias towards areas with high absorptive capacity, the evolution of a constitutionally imperial presidency was accompanied by weak scrutiny of public finances. Public audit arrears grew remarkably, emasculating Parliament's watchdog role over public spending. These failings ethnicised the demand for – and indeed, the allocation of – cabinet positions and other senior public offices, as outright misappropriation of budgeted funds, and their diversion to preferred – but unauthorized – spending areas, remained unpunished. Table I–2.1 illustrates the manner in which the ethnicity of the president has influenced the composition of Kenya's independence era cabinets, echoing Wrong's (2010) 'it's our turn to eat'.¹³ Thus, the tenure of first government of independent Kenya reflects the disproportionate presence of the president's ethnic Kikuyu group in the cabinet, even relative to his vice president ethnic Kalenjin peoples. These ministerial imbalances have been repeated in subsequent governments – with succeeding presidents' ethnic groups dominating ministerial positions. These same patterns are replicated across the entire public service, most notably in the state corporations sector.¹⁴

Table I-1: Ethnic percentage shares of Kenyan cabinet positions

Ethnic group	Kenyatta (Kikuyu)		Moi (Kalenjin)		Kibaki (Kikuyu)			
	1966	1978	1979	2001	2003	2005	2007	2011
Kikuyu	28.6	28.6	30	4	16	18.1		19.5
Luhya	9.5	4.8	11	14	16	21.2		17.1
Luo	14.3	14.3	11	7	16	3.1		12.2
Kalenjin	4.8	4.8	11	17	7	6.1		9.8
Total	21	21	26	28	25	33		42

Source: Stewart (2008)

¹³ However, cabinet ministers could only be appointed from serving Members of Parliament belonging to the ruling party. Thus, the one-party rule of the Kenyatta and Moi eras enabled them to appoint from all ethnic groups; but the 1991 return of multi-party rule led to hardly any prominent Kikuyus in Moi's KANU as at 2001 to be appointed to the cabinet. Further, the table does not reflect the relative importance of the ministries for ethnic aggrandisement, finance and foreign affairs being more important than, say, sports or fisheries.

¹⁴ For example, the ethnic group of the current president has ministerial control of the presidency, internal security, finance, and energy. Such control extends to all the related state corporations.

The significance of these public positions for horizontal inequality is that the decline of public spending scrutiny into the 1970s consigned social infrastructure investment to community-dependent *harambee* fund raising, which favoured areas with politically connected elites (Miguel, 2000). Thus, the provisioning of, and access to, basics like health care, education and safe water, as well as physical infrastructure, became conditioned on political linkages, not comparative need. To date, the more politically connected have been the local elites – ministers, senior civil servants, state corporation heads, political party leaders – the greater the scope has been for providing socio-economic opportunities for their areas of origin. Thus, Kenya's political, social and economic inequalities are synergistic: the political class preys on social identities – ethnicity, religion, etc – to perpetuate its stranglehold on the economy. This strategy perpetuates the hierarchical vertical inequality across individuals while also perpetuating horizontal inequality across regions and groups of individuals.

The close mapping of ethnicity to regions and their AEZ status predetermines most other facets of socio-economic inequalities, overshadowing other important inequalities. For example, Kenya's patriarchal indigenous heritages have overseen extensive biases against women that are only beginning to be addressed substantively by Constitution (2010). Further, while the country has remained racially peaceful, the underlying currents have been manifest during social unrest, such as during the sporadic violence in the context of the two decade long struggles for constitutional change.¹⁵ While religious diversity thrives, there have been few overt animosities even if religious status also predetermines certain socio-economic opportunities for self-advancement.¹⁶

The 2002 general election saw the defeat of the independence party, the Kenya African National Union [KANU], ushering in the most widely supported government since independence, that of the National Alliance Rainbow Coalition [NARC] party.¹⁷ While the NARC manifesto promised many reforms that could have reduced poverty and inequality, tensions across the party's broad

¹⁵ The Asian practice of residential segregation has often attracted disproportionate looting and even rape during such political unrest.

¹⁶ Thus, for example, the prevalent Islamic practice of limiting education to knowledge of the Koran has constrained formal education in general and opportunities for women and girls in particular, in coastal and north-eastern Kenya where the religion is widespread.

¹⁷ Independence eve party politics was decidedly partisan – pitting the 'big tribes' in KANU against the 'small tribes' in KADU. Despite the *de facto* and eventually *de jure* single party rule into the Moi era beginning 1978, there existed extensive political fragmentation. In 2002, however, Moi's intention to hand power over to founding President Kenyatta's son caused an unprecedented opposition unity under NARC.

base re-introduced ethno-regional parochialism, deferring the implementation of a new constitution. NARC's first term saw year on year economic growth to 7 per cent per annum in 2007; but there was not a reciprocating reduction in poverty or inequality. Its development blueprint – the *Economic Recovery Strategy for Wealth and Employment Creation 2003-07* – succeeded in its aspiration to create wealth, but only enabled the creation of jobs in an over-subscribed informal sector, which explains why the poverty rate remained a high 45.9 per cent by 2006. Arguably, the state of poverty and inequality – and the consequent weak cohesion and integration – played a significant role in the breakdown of social order in the wake of the disputed 2007 presidential elections, resulting in the loss of 1,200 lives and the displacement of some 600,000 people, alongside the widespread destruction of property. The event was certainly not an uprising of the poor; but the deprivation of the youth made them amenable to provocation to violence, as established by the Waki Report.¹⁸ The disruptions in the wake of the 2007 elections saw 2008 economic growth drop to 1.6 per cent; but its recovery to 5.3 per cent by 2010 illustrates the significance of order for economic growth.

¹⁸ See 'Commission of Inquiry into the Post-Election Violence – Final Report'. Available at <http://www.communication.go.ke/media.asp?id=739> – accessed 13/07/2012.

3. *Vertical and Horizontal Inequalities*

This section starts with a review of the basis of estimating the extents of inequality. It then provides some estimates of Kenyan expenditure inequalities, as well as some profiles for socio-economic inequalities across the country.

3.1 **Measuring Inequalities**

One perception of poverty is that it is lack of resources or money with which to acquire basic needs. This perception still drives the money-metric estimations of poverty across individuals, households, regions, countries and continents, and over time. The Marshall Plan's successful reconstruction of Europe underscored the pre-occupation with money – capital – as a means of escaping poverty. Yet, into the African 'independence decade' of the 1960s,¹⁹ Third World countries continued to languish in poverty despite substantial injections of foreign aid.²⁰ This reality presented a new challenge that distinguished Classical from Development Economists, spawning a literature that sought to understand poverty and development differently. Thus, Michael Todaro and Amartya Sen would appreciate the role of economic growth in development in expanding material choices, but would also emphasise expansion of political choices and freedoms (linked to a capacity to appreciate these) (Todaro and Smith, 2006). This new approach led to the broader perceptions of development as human welfare, spawning UNDP's 'development diamonds' which measure the status of incomes alongside selected human welfare indicators, such as literacy, longevity, education enrolment, access to basic utilities, amongst others.²¹ A further transformation in perceptions of poverty was reflected in the International Monetary Fund's 1999 insistence that the findings of participatory poverty hearings be integrated into the traditional macro-economic indicators as a basis of development assistance. The Millennium Declaration of 2000 was a logical outgrowth of this trend in conceptualizing poverty, based on hunger, gender equality, education, child and maternal survival, health care, the environment and development co-operation.

¹⁹ Of the post-World War II colonies of the Asian sub-continent, India and Pakistan got independence in 1947, while on the African continent, Ghana pioneered in 1957. The majority of the other colonies of these regions got independence during the 1960s,

²⁰ Aid under the Marshall Plan re-constructed post-war Europe; hence the World Bank's official name as the International Bank for Reconstruction and Development. Aid to newly independent Third World countries was targeted original construction.

²¹ See for example, see the technical notes at <http://hdr.undp.org/en/statistics/hdi/> - accessed 13/07/2012.

Various measures exist of the strength of an economy, the most common one being the Gross Domestic Product [GDP], with much attention to its size, and the rate of change from one to another year. The interest in GDP size is because its division by the national population gives the national income or GDP per capita, which reflects each person's hypothetical share of the 'national cake'. Changes in GDP per capita provide insights into the relationships between national production and population growth. Thus, policy interest often focuses on the growth rate of GDP, populations and GDP per capita.

The methods of computing poverty have been diverse, reflecting the transformations in its conceptualization over time. Money-metric measures of *income* poverty – anchored on a 'poverty line', are usually based on a measure of, not income, but rather expenditure or consumption, the latter approaches being preferred because they enable a comparison based on a globally recognized basic minimum consumption levels (of food and non-food items) required for human survival below which one is considered poor.²² Besides the cost of basic needs poverty line, another globally recognised approach to poverty line construction is to estimate access to the basic minimum calorie intake (Lipton and Ravallion, 1995), which the Food and Agriculture Organisation sets at 2,250 kilo-calories per adult equivalent. These methods have been applied in determining the Kenya populations living below the *poverty line* (Greer and Thorbecke, 1986; Republic of Kenya, 1994; 1998; 2000; Mwabu *et al.*, 2000). These approaches to the setting of a poverty line enable the distinction between *food* poverty and *overall* poverty. They involve the costing of regional baskets of basic goods and services, which are consequently aggregated at higher levels, to arrive at rural, urban and national poverty lines. Rather than the individual, the derivation of poverty estimates is often based on the household which is considered the basic unit of consumption. Since the household has more than one person, consumption is adult equivalised.²³ A food poor household is one whose average expenditure cannot acquire the basic kilo-calorie intake, while an overall or absolutely poor household is one whose average expenditure cannot afford the basket of basic food and non-food items.

In developing poverty reduction initiatives, it is necessary to distinguish between the *incidence*, *depth* and *severity* of poverty. This distinction is based on a methodology developed by Forster,

²² Poverty measures based on incomes would provide a highly distorted picture given that millionaires share the same country or region with paupers.

²³ Consumption of the first adult assumes a value of 1, but that of additional adults take a value less than one due to scale economies. Children under 15 assume a value of 0.5.

Greer and Thorbecke (1984) – popularly known as the FGT poverty measure. The incidence of poverty, also termed the *headcount ratio* ($P_{\alpha=0}$), reflects the proportion of individuals or households in the population living below the poverty line. Beyond the absolute numbers or proportions, the *poverty gap* or *average income shortfall* ($P_{\alpha=1}$) gives the depth of poverty, defined as the proportional shortfall of the average person/household from the poverty line. This measure enables an estimation of how much money it would take to bring all individuals or households out of poverty. The poverty gap does not however, heed the effect of income redistribution among the poor on poverty, which is captured by the *severity of poverty* ($P_{\alpha=2}$).

The incidence, depth and severity of poverty offer one format of a *poverty profile* which can be used for analysis at varied levels (Ravallion, 1994). The other format focuses on the characteristics of poverty, such as by household size or level of education among sub-groups. The focus on characteristics moves poverty analysis away from money-metrics towards the multiple human welfare dimensions reflected in the Millennium Development Goals, for example.

Beyond the concern with poverty is that with *inequality*. While a preponderant focus has been on inequality of incomes, the focus on human welfare has also broadened the conceptualization of inequality to consider characteristics, such as gender, immunization and education enrolment rates. While income inequality is pertinent to discussions on economic growth, the latter dimensions of inequality are significant in concerns of national cohesion and integration, since perceptions or realities of welfare disparities fuel feelings of 'other-ness', of not belonging. Indeed, research has shown that more equal societies generate more social capital and consequently 'do better' (Wilkinson and Pickett, 2009). Finally, it is useful to bear in mind that inequality can be severe even where there is little poverty.²⁴

With respect to incomes, inequality reflects the extent to which its distribution varies from that of equal shares across the whole population, a concern broached on by the analysis of the severity of poverty. Nonetheless, income inequality is a reality of society, the policy maker's concern being that it should not be to the detriment of the welfare of the less endowed portions of society.

²⁴ The Gini coefficients of China and Rwanda stood at 0.469 (2004) and 0.468 (2000), but their respective poverty rates were 4.6% and 60.3%.

The main tool for analyzing income inequality is the Gini coefficient (G) based on the Lorenz curve, which measures the difference between the diagonal of equal shares of income across the whole population (45°-line), and the actual distribution of shares of income in the whole population (Gini, 1921). To construct the Lorenz curve, members of the population are arranged in an ascending order of their incomes and each member's share of the total income of the population is calculated. The cumulative incomes of the members of the population are plotted on the horizontal axis while their cumulative shares of the population are plotted on the vertical axis. A distribution of complete equality ($G = 0$) would run along the diagonal (45°-line). The curve for complete inequality with one person, household or percentile having all the income ($G = 1$) would be the right-hand axis. Thus, Gini coefficients approaching zero reflect greater equality in incomes, while those approaching 1 reflect greater inequality. However, while the Gini is sensitive to changes in the distribution of incomes, such as through transfers, it is insensitive to whether the changes result from transfers among the rich or the poor, or between the rich and the poor.

Having thus arranged the population and determined their cumulative incomes, it becomes possible to express inequality in a disaggregated way. The arrangement allows a dividing up of the population into ascending/descending groups based on relative incomes. The divisions – such as into deciles (tenths), quartiles (quarters) or quintiles (fifths) – allow comparisons of the shares of total income accounted for by the first, second and other groups. The more unequal the incomes of a population, the higher the shares of that population's total income that will be accounted for by the higher groups compared to the lower groups.

For poverty and inequality reducing policy, it is imperative to move beyond measuring inequality to determining their causes, and consequently, the potential channels through which they can be alleviated. Whether considering income poverty, shortfalls in human welfare attainments, or inequality, Amartya Sen's (1999) capabilities or human development approach is among the many alternatives available. Incomes enable individuals and households to widen their choices and (consequently) well-being, which in turn, expand their functionings (the things they value doing), capabilities (the freedom to enjoy functionings), and agency (the ability to pursue valued goals). Thus poverty and inequality are the consequences of 'capability deprivation': gender biases for instance, undermine opportunities for women; and social unrest deters work and earnings, as does nepotism in employment. Viewed from this perspective, poverty and inequality are therefore caused by any and all factors that may undermine one's

exploitation of their full potential, given the basic natural and non-natural resources available to them. Thus, poverty among farmers may result from poor agro-ecological heritages, capital, seeds, husbandry, infrastructure, and/or marketing. Inequality among them, however, could be the consequence – individually or regionally – of varied capacities in relation to these critical inputs.

Notwithstanding Wilkinson and Pickett's (2009) findings, relationships between inequality and social cohesion need to be treated with greater nuance. Research has established that too much equality ($G < 0.25$) harms growth by hampering incentives, fostering free riding and evasion of work, while too much inequality ($G > 0.40$) also hurts growth through weak incentives, and the erosion of social cohesion with attendant social conflicts that threaten property rights (Cornia and Court, 2001). While Cornia and Court advise that inequality be maintained towards the lower cut-off of the 'efficient' range, United Nations Research Institute for Social Development (UNRISD)'s 2010 report concludes that neo-liberal economic policies generate high growth rates alongside widening inequalities. An interesting finding of the report is that the higher the wage earners' share of GDP – as opposed to the share for profit-earners, the less unequal the country.

3.2 Expenditure Inequalities

Arguably, the most complete source of income data in Kenya should be the Kenya Revenue Authority's individual and corporate income databases on which tax dues are estimated; yet these omit tax evaders and avoiders, and are in any case generally inaccessible to people outside the Authority. Various Kenyan studies – including the household welfare surveys – have focused on household assets, which merely scratches the top layer of the means by which households accumulate incomes and wealth. Thus, Kenyan welfare studies, in keeping with Lipton and Ravallion (1995), focus on household *expenditures*, which, rather than assets, determine access to recommended minimum 2,250 kilo-calorie intake.

A further point to note as we proceed to discuss Kenyan horizontal inequalities is the regional distribution of ethnic groups. People migrated into and settled in present day Kenya in ethnic clusters. Besides taking advantage of such ethnic clustering to pacify the territory, the colonial government exacerbated such balkanization by creating ethnically exclusive administrative domains, to the extent of even ethnically partitioning the African residential estates of Nairobi, the capital. While land expropriation for settler agriculture displaced various ethnic groups –

most notably the Kikuyu, the administrative units inherited at independence largely retained their ethnic bases. Thus, all the counties of Central province are fundamentally Kikuyu, those of North Eastern province is Somali, Western province is Luhya, while Nyanza province is shared between the Kisii and the Luo. Eastern province is shared between the Kamba, Meru and Embu. Nairobi province's domination by the Kikuyu is because of its abetting Central province from which it has attracted much labour. Rift Valley province has the largest mix of ethnicities, but most of its 12 counties also quite distinct ethnic identities, save for Nakuru and Uasin Gishu counties. This summation does not ignore the fact that Kenya has 42 main ethnic groups: but even government publications often cluster some of these into a single group – such as Kalenjin, Somali and Luhya; and some are adjudged 'statistically invisible' (see Table I-4).

Kenya has undertaken various poverty studies, the historical ones being summarized in Mukui (2005). While the earlier studies were cross-sectional – involving a one-off interaction with respondents – the most recent welfare study, KIHBS, involved a series of interactions with respondent households over a one-year period, some findings being published in Government of a (GoK) (2007). As with all the other welfare surveys, the KIHBS data allows analyses of poverty at three levels: the *headcount* of mere numbers below the poverty line; the *depth* of poverty, reflecting the poor's expenditure shortfall to rising above the poverty line; and the *severity* which captures inequality among those below the poverty line. These three aspects of poverty are captured in Table I-2, which shows that headcount poverty rates ranged between 12 per cent for Kajiado County and 93 per cent for Turkana.²⁵ While in this case the two counties also offered the two extremes for depth and severity of poverty, this need not necessarily be so.²⁶ The table also provides the respective coefficients of variation (COV) for the three poverty measures, which show that when standardized, the most intense inequality is in the severity of poverty (0.9074), rather than in its depth (0.6356) or its absolute numbers (0.3542).

²⁵ While Turkana's poverty rate is unsurprising, that of Kajiado suggests a survey sample skewed in favour of the county's northern reaches of Kiserian, Ongata Rongai and Karen, dominated by middle class people working in Nairobi.

²⁶ This is confirmed by the fact that these measures correlation coefficients are less than unity: 0.9242 between headcount and depth; 0.8377 between headcount and severity; and 0.9805 between depth and severity.

Table I-2: The headcount ratio, depth and severity of poverty among counties, 2005/06

County - Province	Ethnicity	Headcount Ratio (%)	Depth (%)	Severity (%)
Baringo – RV	Kalenjin	58.8	21.6	11.2
Bomet – RV	Kipsigis	46.4	12.0	5.1
Bungoma – W	Luhya	51.5	17.7	7.9
Busia – W	Luhya	65.2	26.8	14.7
Elgeyo Marakwet – RV	Keiyo/Marakwet	55.3	16.6	7.1
Embu – E	Embu	40.7	14.2	6.8
Garissa – NE	Somali	55.0	20.3	9.8
Homa Bay – Ny	Luo	43.5	15.2	7.1
Isiolo – E	Somali	62.5	28.4	16.4
Kajiado – RV	Maasai	11.9	2.5	1.0
Kakamega – W	Luhya	51.3	17.4	7.8
Kericho – RV	Kipsigis	40.8	11.5	4.3
Kiambu – Ce	Kikuyu	26.1	8.4	4.2
Kilifi - Co	Giriama	66.1	25.8	13.1
Kirinyaga – Ce	Kikuyu	25.2	5.9	2.1
Kisii – Ny	Kisii	56.4	20.2	9.8
Kisumu – W	Luo	45.3	14.2	6.3
Kitui – E	Kamba	62.2	22.2	10.4
Kwale – Co	Digo	72.6	28.4	14.0
Laikipia – RV	Kikuyu	47.0	14.1	6.7
Lamu – Co	Swahili	31.6	6.3	1.8
Machakos – E	Kamba	56.1	19.8	10.1
Makueni – E	Kamba	63.9	22.2	10.4
Mandera – NE	Somali	86.6	45.7	28.7
Marsabit – E	Somali	79.7	42.2	27.7
Meru – E	Meru	27.7	6.7	2.5
Migori – N	Luo	46.4	19.0	10.1
Mombasa – Co	Comspolitan	37.6	8.7	2.9
Murang'a – Ce	Kikuyu	30.0	8.6	3.7
Nairobi – Na	Cosmopolitan	21.3	6.9	3.1
Nakuru – RV	Cosmopolitan	41.0	12.1	4.9
Nandi – RV	Nandi	46.6	13.7	5.7
Narok – RV	Maasai	34.3	10.2	4.6
Nyamira – Ny	Kisii	49.8	16.6	7.0
Nyandarua – Ce	Kikuyu	49.2	17.5	8.3
Nyeri – Ce	Kikuyu	31.0	11.6	6.3
Samburu – RV	Samburu	78.3	42.6	28.0
Siaya – Ny	Luo	35.6	11.8	5.4
Taita Taveta – Co	Taita/Taveta	55.0	17.6	7.8
Tana River – Co	Pokomo/Orma	75.2	29.9	15.4
Tharaka Nithi – E	Embu/Kamba	48.9	18.0	9.4
Trans Nzoia – RV	Luhya	49.4	15.1	6.2
Turkana – RV	Turkana	93.3	67.5	53.2
Uasin Gishu – RV	Cosmopolitan/Kalenjin	44.0	11.4	4.7
Vihiga – W	Luhya	40.4	11.9	5.3
Wajir – NE	Somali	84.7	38.1	19.9
West Pokot – RV	Pokot	67.8	25.8	13.8
Coefficient of Variation		0.3542	0.6356	0.9074

Source: GoK (2007)

Notes: The province identities are as follows: RV – Rift Valley; Ce – Central; Co – Coast; Na – Nairobi; Ny – Nyanza; W – Western; NE – North Eastern; and E – Eastern

Beyond Table I-2's analysis of the county rates rate of expenditure-based poverty, Figure I-1 analyses the extents of expenditure inequalities among groups *within* counties, as well as across counties. As previously explained (Section 3.1), the comparison of the distribution of expenditure across the population is the basis of determining the Gini coefficient of inequality. This study did not estimate county level Ginis of inequality, but instead focused on the quintile distribution of expenditure. In confirmation of the findings of Table I-2, Figure I-1 shows that Turkana has the largest share of population – 78percent – in Quintile 1, which is composed of the poorest 20 per cent of that county's population, compared to the low rates in Kajiado (1.2 per cent), Kirinyaga (3.2 per cent), Lamu (2.4 per cent) and Nairobi (1.2 per cent).

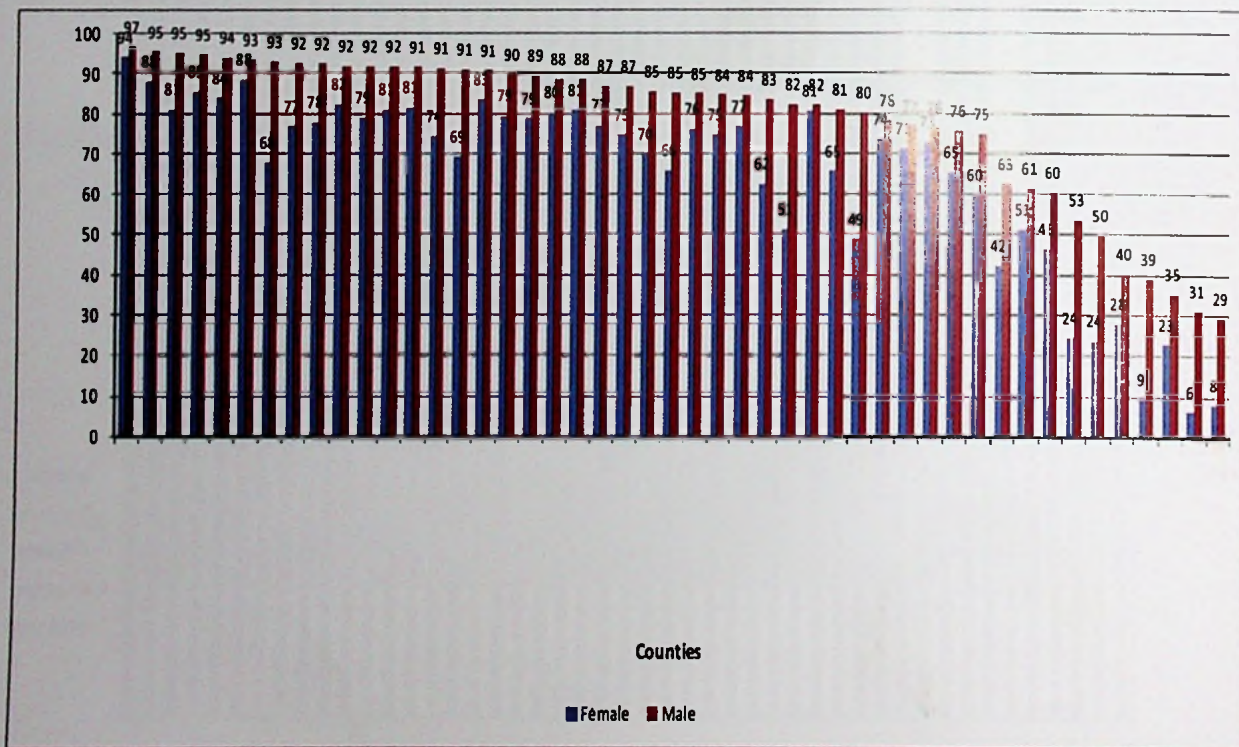
Figure I-1: Expenditure quintile distribution of county populations, 2005/06



Source: GoK (2007)

Figure I-3 shows the extents of vertical and horizontal inequality in literacy across gender and counties. Inequality in female literacy is marginally greater than that in male literacy, with respective COVs of 0.3571 and 0.2854. The figure illustrates the consistent disadvantage of women across all the counties, their greatest attainments coming in Nairobi, Uasin Gishu and Nandi counties. The figure also shows the counties where females are most disadvantaged over literacy, including Mandera, Wajir, Turkana, Samburu and Garissa – all of these being ASAL counties, most of them with preponderant Muslim populations in which women are subservient. The figure also illustrates the horizontal variation of literacy across counties, Nairobi having the highest male and female rates at 97 per cent and 94 per cent respectively, with Turkana (29 per cent) and Mandera (6 per cent) having the lowest male and female rates respectively.

Figure I-3: County distribution of literacy by gender

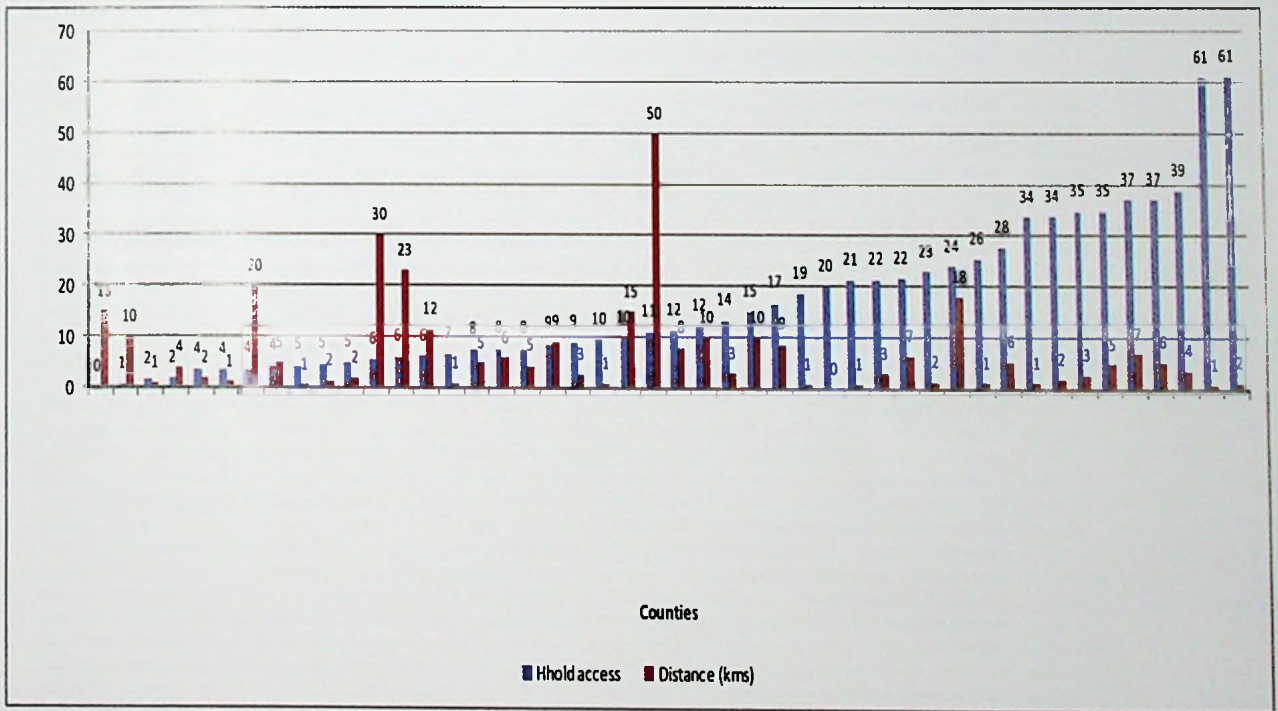


Source: GoK (2007)

Expert analyses show that Kenya is a water risk country; and Figure I-4 shows the extent to which this fear is palpable. Firstly, the figure presents data on the percentage of households with access to piped water by county, which ranges from 61% for Nyeri and Mombasa counties, to

less than 1% for Wajir – resulting in a COV of 0.8763.²⁷ Secondly, the figure presents the mean distances in kilometers [km] within counties to the nearest water point. The disadvantage among ASAL counties is quiet obvious, with Marsabit households traveling some 50 km to a water source, while those of Mandera, Wajir and Narok travel at least 20 km, the COV being 1.2853. An important additional concern is that even after such long trips, there is often inadequate and unsafe water for ASAL households, including for their livestock. There is a weak correlation between the access and distance variables ($r = 0.2395$), which suggests poor distribution of piped water *within* counties where it is available, such as through urban concentration of supplies.

Figure I-4: Household access to water–Rates and distances



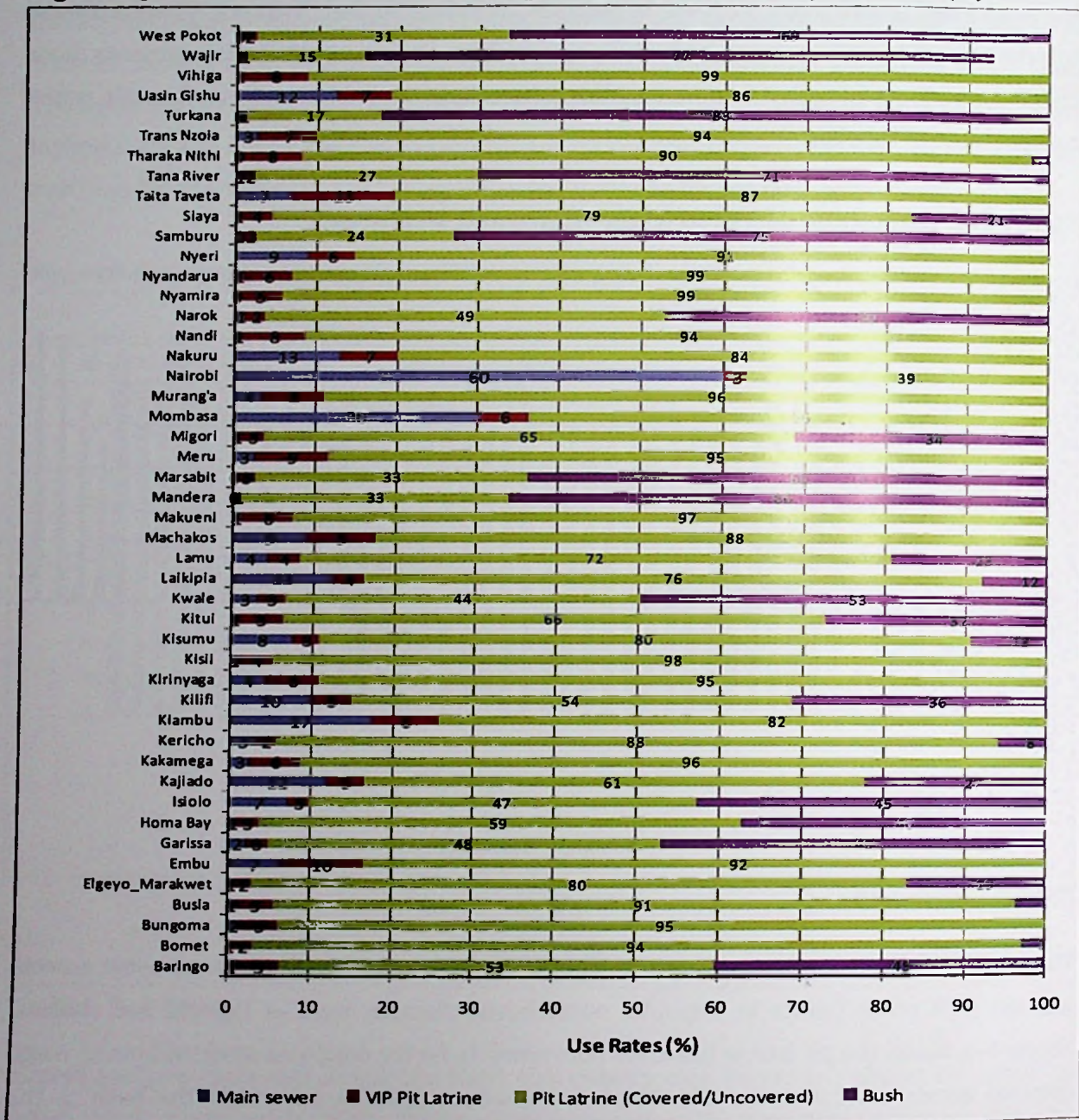
Source: GoK (2007)

The modes of disposing human waste is significant for human health status as some aspects interact with other factors to engender water borne diseases, such as typhoid and cholera. Figure I-5 shows the pit latrine (covered/uncovered) to be the dominant mode of human waste disposal across most counties. Yet, there are about 10 counties for which ‘the bush’ is the dominant mode, mainly ASAL counties where access to domestic water was seen to be

²⁷ These data exclude Nairobi county whose access rate is likely to be at least equal to the rates for Mombasa and Nyeri.

problematic (Figure I-4). In terms of improving citizens' welfare, it is remarkable that only 8 counties have a main sewer connection rate above 10%, this distribution resulting in a COV of 26.6318. The COVs for the other means of disposing human waste are 1.2970 for the VIP pit latrine, 0.8262 for the covered or uncovered pit latrine, and 0.3845 for the bush.

Figure I-5: Distribution of means of disposing human waste by counties (%)



Source: GoK (2007)

In finalising this sub-section on socio-economic inequalities, we present some provincial level data in Table I-3 that were generated by the Kenya Demographic and Health Survey 2008/09 (KNBS and ICF Macro, 2010). These data illustrate the extent of inequalities across the provinces, which likely translate into similar inequalities at the county level. For two indicators, the table illustrates gender inequalities – in access to education and to the media, both significant intermediaries in efforts to uplift demographic status. The share of women with no education at all was greater than that of similar men in every province except Central. Interestingly, the share of women with no media access was also greater in every province except in the presumably highly conservative North Eastern. However, the differences across the provinces were also remarkable, with 78 per cent of North Eastern province women having no education at all compared to less than one per cent for Central.

Table I-3: Comparing Demographic Indicators across Provinces, 2008/09

		Nairobi	Central	Coast	Eastern	Nyanza	Rift Valley	Western	North Eastern	COV
No education	Women	2.5	0.7	24.3	5.7	2.1	12.2	4.1	77.7	1.6113
	Men	1.5	1.1	3.1	1.3	0.8	6.0	1.7	41.0	
No media access in 7 days	Women	5.0	6.3	28.1	27.6	15.0	20.7	13.4	7.9	0.5921
	Men	0.3	1.4	9.5	7.4	2.9	10.0	9.0	12.0	
Total fertility rate		2.8	3.4	4.8	4.4	5.4	4.7	5.6	5.9	0.2325
Months since previous birth		40.4	43.1	33.2	35.5	30.7	32.5	29.9	27.7	0.1551
Contraception use		55.0	67.0	34.0	52.0	37.0	42.0	47.0	4.0	0.4429
Ideal no. of children		2.8	3.1	4.6	3.4	3.7	4.0	3.9	8.8	0.4447
Under-5 mortality		64.0	51.0	87.0	52.0	149.0	59.0	121.0	80.0	0.4265
Skilled ANC attendance		96.4	92.7	94.5	93.4	93.6	88.4	91.5	69.5	0.0956
Skilled delivery		88.9	73.8	45.6	43.1	45.5	33.7	25.8	31.6	0.4503
Post natal care		18.4	44.2	50.0	51.5	65.8	51.1	60.0	79.3	0.3368
HIV prevalence		7.0	4.6	4.2	3.5	13.9	4.7	6.6	0.9	0.6729

Source: KNBS and ICF Macro (2010)

If these demographic indicators and the ones of previous tables and charts are taken to proxy for development status – and they well do since various of them are suitable under the Millennium Development Goals framework – then one could conclude that North Eastern and Central provinces are respectively the least and most developed in the country. This pattern is consistent with the heritage of the strategy adopted by Sessional Paper No. 10 of 1965.

4. *A History of Tensions and Recent Conflicts in Kenya*

Most of the peoples of Kenya migrated to their present ethnic homes during the early and middle centuries, such as the Miji Kenda entering the coastal lands from Shungwaya during the 1600s, and the Luo coming in from the west in the 1400s. These migrations invariably involved conflict over land and livelihoods, such as the notorious Maasai raids for Kikuyu livestock. The manner of Kenya's colonization diminished these inter-ethnic wars, but not the underlying mistrust. The pacification of the African 'natives' involved skirmishes, such as against the Kamba, Kisii, Maasai and Nandi, many of these instances involving 'expeditions' during which the natives were punished, such as through the confiscation of livestock, burning of homesteads, and the arrest, detention and even the killing of local leaders. Largely, however, Kenya's colonization was a peaceful process, which nonetheless generated the most violent revolt against British rule in Sub-Saharan Africa, the Mau Mau uprising.

The British expropriated the 'White Highlands' for European settlement largely from the Kikuyu, Maasai and Nandi. That these lands were considered ancestral heritages was evident in the demands of the Mau Mau uprising for a return of 'stolen' lands, carried well into the independence period. Yet, instead of founding President Kenyatta heeding these demands, he aggravated the situation by presiding over the further expropriation of ancestral lands, in opening up settlement opportunities – largely for his Kikuyu peoples – in the ancestrally Kalenjin lands of western Rift Valley. The resulting tensions were evident in demands, such of the Nandi Declaration of 1965 – for all 'foreigners' to leave, a theme that has been quite evident in successive rounds of violence since the 1990s. On the other hand, initiatives to organize groups for land acquisition also generated tensions and conflicts as dishonest, politically-connected land entrepreneurs fleeced peasants' contributions and expropriated purchased land.

The early 1950s Swynnerton Plan was an initiative to create a modern African 'yeoman' farming class that would act as a buffer against African demands for land restitution. The plan instigated land adjudication to produce absolute land titles, an initiative pushed by the independence government for the whole of Central Province, but implemented rather half heartedly in the rest of the country. The claims and the counter-claims of the adjudication processes also generated much tension and conflict in the early independence years.

The early 1960s also saw the emergence of an uprising in the Northern Frontier District when the British decided to ignore an apparent plebiscite decision by the Somalis to be united in one country on the eve of Somalia's 1961 accession to independence. The decision to split the Somali nation across several national boundaries became the cause of persistent violent struggles that have taken various guises across the Horn of Africa. More recently, the ethnic/clanist aspect of the violence has been convoluted by the entry of fundamentalist Islam, such as Al Shabab. However, northern Kenya and other arid lands also host vast populations of the country's pastoralists, some of whom are nomadic. The southern encroachment of the Sahara has undermined pasture and water for these communities, providing a new arena for enduring clan-based conflicts and tensions. This situation has been aggravated by the failure of successive independence governments to provide adequate local opportunities for livelihoods transformation among these pastoralists, their fate often being left in the hands of local and international non-government organisations.

At the national level, Kenya has been unlike many of its neighbours and much of the sub-Saharan Africa, in that it has never experienced military rule, even if it has experienced extensive repression. Soon after independence (1964), the armies of the three East African countries resisted against racially circumscribed differences in employment terms – quickly resolved through British intervention. The government was able to intervene during the planning of a coup in 1971, in which the head of the army and the first African Chief Justice were implicated. A short-lived coup attempt occurred in 1982, inducing extensive repression from the government. These independence years saw transformations to the Constitution, which undermined the separation of powers, expropriating legislative and judicial authority to 'an Executive firmly ensconced in the person of the President. Thus, for example, measures, such as detention without trial, were legislated to deter opposition to the – initially de facto, but eventually, de jure (since 1982) – single party dictatorship. As suggested by Table I-2.1's distribution of cabinet positions, access to state resources increasingly depended on proximity to the presidency, generating many intrigues on how to qualify.

However, the closure of political space through single party rule – especially after the 1982 coup attempt – gave birth to an increasingly vocal civil society whose demands coincided with the 1980s liberalizing reforms of the Bretton Woods institutions. Weak governance spawned malfeasance over public resources, allocations favouring politically connected areas, an issue that increasingly took centre-stage, generating demands for constitutional reforms to rein in the

presidency. Consequently, the multi-party state was re-constitutionalised in 1991, while 1997 saw the launch of the Inter-Party Parliamentary Group reforms allowing oppositionists' participation in electoral management while liberalising space for political rallies, amongst other reforms. Notwithstanding these changes, the KANU government was able to use its massive resources to ethnicise opposition to it, ensuring the split of the omnibus opposition political movement, Forum for the Restoration of Democracy into several parties (Throup and Horsby, 1998). Inquiries into successive elections-related ethnic clashes of the multi-party era centred primarily in the Rift Valley, indicted the government, rather than the various opposition politicians it had repeatedly accused of fomenting strife.²⁸

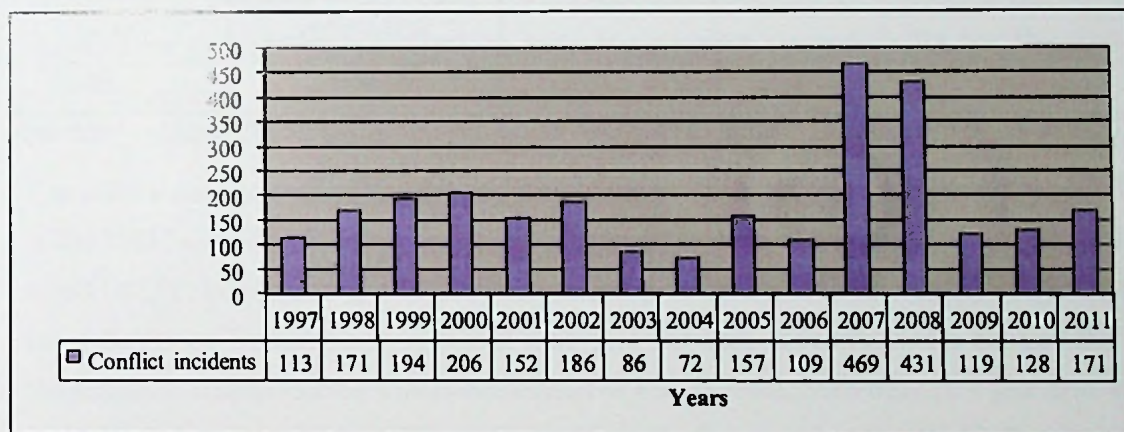
Into the Millennium, Kenyans resolved to dismiss the KANU regime whose mismanagement of the economy saw a mere 0.5 per cent growth in 2002. Thus, the ethnically broad-based NARC government acceded to power in 2003, with an election manifesto of extensive reforms, most notably, the promulgation of a new constitution within 100 days. Yet, as Wrong (2009) documents, elements of this government would renege on the commitment to good governance, raising the tensions manifested in the defeat of its proposed constitution in a 2005 referendum. This resulted in a split in the government that shaped the events leading to the 2007 presidential election debacle, and the ensuing violence into 2008. While the central drama was the violence in the Rift Valley, various aspects of disgruntlement were significant in the desire to remove a government dominated by the elites of one ethnic group. These issues are elaborately documented by Kanyinga and Okello (2010).

The foregoing discussion has focused merely on the macro picture of conflict and tensions in the country. A major source of micro-data on conflict – crime – is police records, normally summarized in the government's annual publications, the Economic Survey and the Statistical Abstract. However, these data only reflect crimes reported to the police and therefore obviously omit a lot of unreported incidents. Among the pastoralists of northern Kenya, for example, cattle-rustling is a rite of passage for young men of marrying age, and is therefore not seen as a crime. Further, many Kenyan communities have localized conflict resolution methods outside the formal judicial system, meaning that crime and conflict are under-reported. Nonetheless, good data on pastoralist conflict are found in establishments such as the Conflict Early Warning

²⁸ See the parliamentary Kiliku Report and the judicial Akiwumi Report summarized in Kenya Human Rights Commission [KHRC] (2011).

The Armed Conflict Location and Events Dataset [ACLED] offers a micro-picture of conflict in the country between 1997 and 2011. The data in Figure I-6 are based on media reports of conflict incidences of any nature. The data show there is a modest confluence in peak conflict incidences and Kenya's electoral cycle. For example, that the numbers of conflicts reported increased *after* the 1997 general elections is counter-intuitive;²⁹ but the 2002 and 2005 peaks are understandable. The high rates for 2007 and 2008 are understandable in the context of the post-election violence. The rise from 2009 to 2011 is also surprising, but is partially explained by the rise in incidents involving Islamist militants.

Figure I-6: Trend data on Kenyan conflict incidents, 1997-2011



Source: ACLED, at <http://www.acleddata.com/> - accessed 12/07/2012

The ACLED database distinguishes protagonists to a conflict situation as Actors 1 and 2, the former being presented in Table I-4.1 as the Instigator. The table shows that ethnic militias are primary instigators of conflict, whose numbers are also greatly added to by civilian activities, including protests and riots. Regionally, it is unsurprising that Rift Valley should lead in the numbers of incidents, having borne the brunt of the 2007/08 violence. Nairobi's second place is also unsurprising, again because of the violence during 2007/08; but also being a densely

²⁹ The lower 1997 incidence might be due to the database being new and only just establishing data collection frameworks.

populated national capital with extensive informal settlements offering opportunities for conflict and delinquency.

Table I-4: Primary instigators and regional distribution of Kenyan conflicts, 1997-2011

Instigator	Numbers	Province	Numbers
Al Shabab & related terrorists	29	Central	173
Civilians, protestors and rioters	869	Coast	242
Ethnic militia	881	Eastern	260
Unidentified groups	29	Nairobi	630
		North-Eastern	214
		Nyanza	213
		Rift Valley	904
		Western	119

Source: Generated from ACLED data, available at <http://www.acleddata.com/> - accessed 12/07/2012

5. *The Kenyan Inequality Debate*

The most significant recent development with respect to both the fight against inequality and the desire to attain social cohesion is the 2010 promulgation of the new constitution which underscores equity and the equality of rights to basic needs across the whole nation. A decade in the making due to the intransigence of successive presidents (Mutua, 2008; Stacey, 2011), Kenya ended up with a transformative constitution, addressing such urgent, diverse areas as governance integrity, basic rights, devolution and land reforms. Yet, parochial interests threaten adherence to its very specific implementation time-table, interfering for example, with the legislation of frameworks within the allocated five years. The current Parliament ends in January 2013; but an ambiguity in the Constitution has led to debates about the timing of the next general elections eventually scheduled by a High Court decision for March 2013. Meanwhile, a significant undercurrent in Kenya politics is the impending trial at the International Criminal Court [ICC] in the Hague, of four individuals, including two prospective presidential candidates, adjudged to have the greatest responsibility for the 2007/08 post-election violence.

The official assessment of the genesis and course of the 2007/08 violence are well documented in the Waki and Kriegler Reports, while further analyses exist, such as Kenya Thabiti Task Force 2008 [KTTF2008] (2009) and the wide-ranging collection of Kanyinga and Okello (2010). The Inter-Religious Forum's survey found that 59.9 per cent of respondents blamed the violence on the electoral commission's mismanagement of the process, with only 11.3 per cent attributing it to historical grievances (KTTF2008, 2009: 20). Conversely, the Waki Report for instance, attributed the events to the politicisation of violence, the existence of an imperial presidency where the winner takes all, and (perceptions of) historical marginalisation of certain ethnic communities. In the context of Agenda Two of the National Accord,³⁰ a Truth Justice and Reconciliation Commission was established whose operations have however, been steeped in controversy, undermining the timely completion of its task originally set for 2010.³¹ While the

³⁰ Agenda 1 of the National Accord involved stopping the fighting and restoring human rights. Agenda 2 involved humanitarian interventions, reconciling communities and undertaking healing. Agenda 3 addressed the political crisis resulting from the elections. Agenda 4 focused on long term issues and solutions. See <http://www.dialoguekenya.org/Agreements/1%20February%202008%20-Annotated%20Agenda%20for%20the%20Kenya%20Dialogue%20and%20Reconciliation.pdf> Accessed 10/10/2012

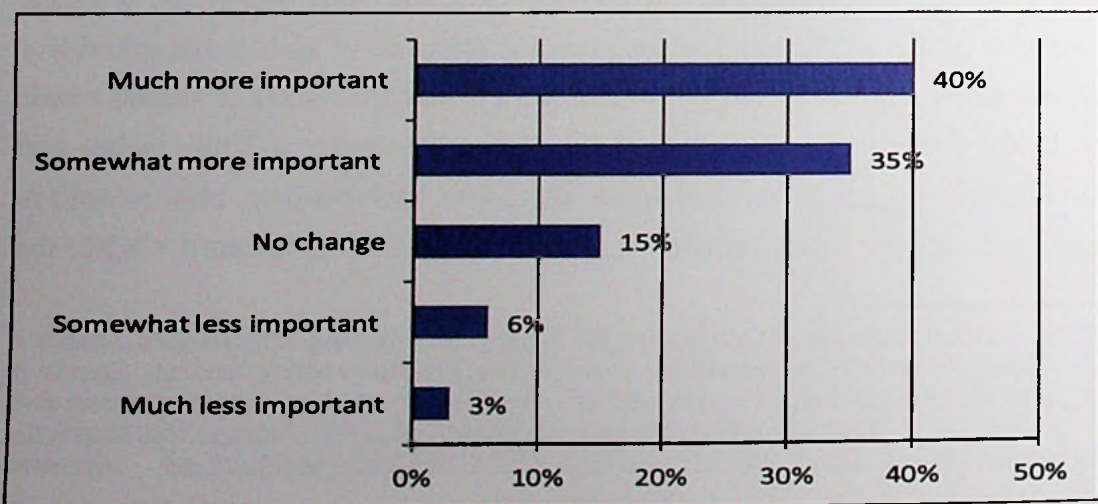
³¹ See Section 20 (1) of The Truth, Justice and Reconciliation Act (2008). Available at <http://www.tjrckeny.org/images/documents/TJRC-Act.pdf> Accessed 10/10/2012

government has instituted various measures to reduce tensions – mentioned in Section 6, many of the issues underlying 2007/08 violence – as identified by the Waki Report – remain unresolved, this compounded by perceptions of ethnic bias in the treatment of individuals uprooted during that violence.

True to the Waki Report's conclusions, ethnicity – or more accurately, the scope for ethnic mobilization by politicians – remains a factor in Kenyan politics. While the Constitution has done away with the imperial president, both in terms of accession to the position and of conduct of the office, persisting horizontal inequalities make regional mobilization over the presidency a reality, undermining feelings of being Kenyan. In these respects, it is likely that little has changed in perceptions since a 2008 Japan International Cooperation Agency's [JICA] study which found that only 32 per cent of the respondents held their Kenyan identity above their ethnic identity, while only 27 per cent felt 'only Kenyan'. However, a mere 7 per cent felt more ethnic than Kenyan, and a mere 2 per cent felt only ethnic.

The JICA study found that 40 per cent of the respondents felt ethnicity had become 'much more important' in Kenyan politics since the 1992 re-introduction of multi-party politics (see Figure I-7). It is significant that a mere 9 per cent of the sample felt ethnicity had become 'less important'.

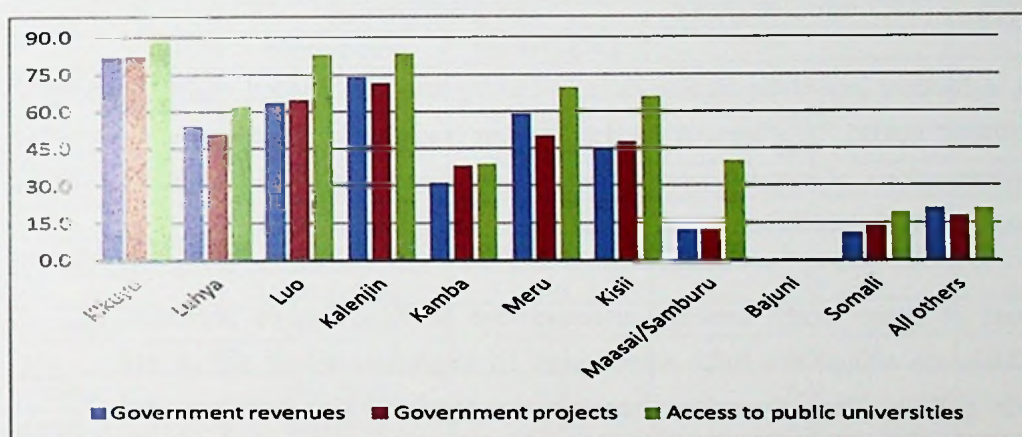
Figure I-7: Has ethnicity become more important since the return of multi-partyism?



Source: JICA (2008)

The JICA study also explored perceptions on the fair sharing of public resources. Figure I-8 shows that only among the Kikuyu, Luhya, Luo, Kalenjin and Meru did more than half the respondents feel their ethnic group got a fair share of government revenues. The figure shows that less than 20 per cent of the respondents among nearly 34 of Kenya's 42 ethnic groups felt their ethnic group got a fair share of government revenues. The same returns applied to shares of government projects and access to public universities. The figure suggests that even among the advantaged ethnic groups, there was greater satisfaction over access to university education than over revenues and spending.

Figure I-8: Does your ethnic group get a fair share of Government revenue, projects and access to public universities?



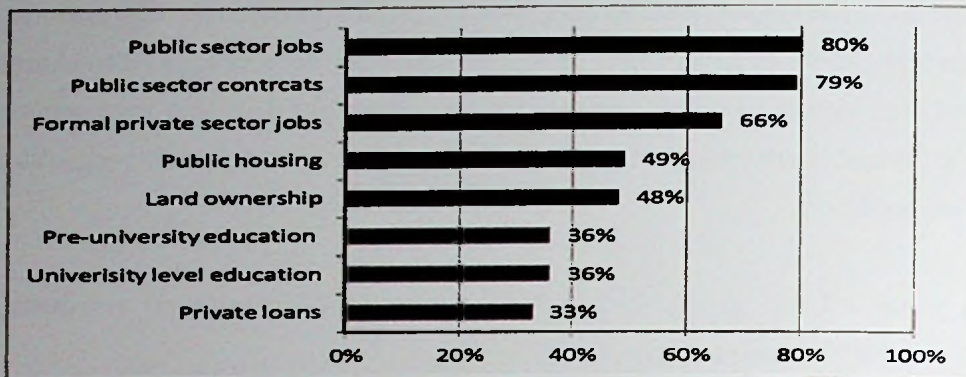
Source: JICA (2008)

The JICA survey also explored perceptions of the influence of one's ethnicity on various activities (Figure I-9). The perception of ethnic influence on access was greatest over public sector jobs and contracts, at about 80 per cent. However, 66 per cent of respondents also perceived ethnicity to influence access to private sector jobs. While land is a sensitive issue in the country, the comparatively low rate of perception of ethnic influence on its ownership is probably because of the ethnic balkanization of Kenya, with most people still only owning land in their areas of (ethnic) ancestry.³² The low perception for private loans is also likely to be influenced by the fact that the majority of Kenyans remain outside the formal banking system,

³² Kimenyi (n.d) for example, reports that the Kikuyu and Luhya constitute 92 per cent and 84 per cent respectively of their respective ancestral Central and Western province ancestral backyards, suggesting weak in-migration.

meaning private loans are acquired from locally-based non-formal lending facilities, such as shylocks and 'merry-go-rounds'.

Figure I-9: Perception that one's ethnicity's influences access to the selected indicators



Source: JICA (2008)

Besides ethnicity, a further key issue in Kenya is impunity and the related reality, corruption (Akech, 2011; Mutonyi, 2002). In a lament on the Kenyan tradition of investigating corruption through public commissions of inquiry whose findings are never acted on, the Kenya Human Rights Commission [KHRC] concludes:

“Thus, most of these ‘truth seeking’ mechanisms in Kenya have produced reports which are either not fully acted upon (if implemented at all) or are never made public. They therefore become the conduits for cover-up and entrenchment of the culture of impunity (KHRC, 2011: 3).”

The failure to prosecute past impunity has repeatedly denied the country a deterrent against future corruption. Akech (2011) argues that while the new constitutional order provides vast opportunities against impunity and corruption, success against abuse of power and corruption requires that the statutory order be aligned with the Constitution's values and principles; an imperative recognised by those resisting the (timely) implementation of the Constitution and related reforms. The persistence of impunity and corruption has far-reaching consequences over inequality (Githongo, 2006).

An initiative of the National Cohesion and Integration Commission [NCIC] illustrates the new direction the country is taking regarding cohesion and integration. Using the National

Integrated Personnel Payroll Data System which records each officer's home district, NCIC analysed the ethnic distribution of the civil service (NCIC, 2011). NCIC's findings are arguably merely indicative;³³ but they illustrate the inequity in sharing public opportunities. Table I-5 shows the ethnic distribution of the national population alongside their shares of civil service positions. NCIC's analysis found nearly half of Kenya's 42 ethnic groups to be 'statistically invisible' with less than a 1 per cent representation – which is unsurprising since these ethnic groups account for similarly modest shares of the national population. The largest 7 ethnic groups accounted for 76.7 per cent of the population; but their aggregate share of the service stood at 81.7 per cent.

Table I-5: Ethnic distribution of national population and civil service jobs, 2011

Ethnic group	Population (2009 census)		Share of Civil Service Jobs (%)	Population/Jobs Share Variance
	Numbers	Share (%)		
Kikuyu	6,622,576	17.7	22.3	+ 4.6
Luhya	5,338,666	14.2	11.3	- 2.9
Kalenjin	4,967,328	13.3	16.7	+ 3.4
Luo	4,044,440	10.8	9.0	- 1.8
Kamba	3,893,157	10.4	9.7	- 0.7
Kenya Somali	2,385,572	6.4	2.7	- 3.7
Kisii	2,205,669	5.9	6.8	+ 0.9
Mijikenda	1,960,574	5.2	3.8	- 1.4
Meru	1,658,108	4.4	5.9	+1.5
Turkana*	855,399	2.6	1.0	- 1.6
Maasai	841,622	2.2	1.5	- 0.7
Embu	324,092	0.9	2.0	+ 1.1
Taita	273,519	0.7	1.5	+ 0.8
Boran	161,399	0.4	1.2	+ 0.8

Source: NCIC (2011); *Republic of Kenya 2011

However, there was widespread violation of the National Cohesion and Integration Act's stipulation that no single ethnic group should constitute more than one third of a government entity's employees. State House led 6 other ministries in this respect, 45.3 per cent of its officers belonging to the Kikuyu community, another 9 ministries also having individual ethnic shares above 30 per cent. NCIC appreciated that the circumstances could be explained by disparities in education attainments, regional distribution of government offices, and regional desires for public service employment, but was nonetheless disturbed that the posting disparities were also evident in new-born ministries – as if these imbalances are part of policy.

³³ For example, Nairobi's housing all ministry headquarters means it accounts for the largest *regional* stock of civil servants; yet, it is not an ethnic home district.

Part II: Social Cohesion

Social cohesion is a multidimensional phenomenon (Friedkin, 2004). In previous KIPPRA work in this area (Republic of Kenya, 2011) social cohesion was conceptualized both as a *process* and an *outcome* of social interactions. For the sake of clarity, we start with a definition of social interactions. Social interactions are the established as well as the transient relations among communities (Friedkin, 2004). Examples of social interactions include trade, marriages, sharing of power, ethnic treaties, migration across ethnic boundaries (Lonsdale, 2012; Ogot, 2012); and management of common resource pools or the financing of public goods (Dasgupta, 2009). The process of interaction among communities, for example in trade or in public goods provision, is structured by institutions, which include formal regulatory or facilitation mechanisms, such as the national constitutions and property right regimes, as well as informal systems, such as social norms and values (North, 1990, 1991). Indeed, the content of the social interaction, i.e., its nature, vigor, and prevalence, is determined by the prevailing structure of social institutions. Thus, the outcomes of social interaction, such as the sentiments of communities toward one another and their mutual trust, as well as the distribution of economic and political powers among them are influenced by existing institutional structures. Needless to say, the outcomes of the social interaction also influence the interaction processes as well. Briefly, the processes and outcomes of social interactions are not only interlinked but also self-reinforcing.

As argued below, social cohesion is part and parcel of the processes and outcomes of social interaction. Institutions influence social cohesion through social interaction. However, since institutions may be endogenous to social interaction, i.e., social interaction can also determine the structure of social institutions, the design of policies to promote social cohesion is a challenging task.

2.1 Defining Social Cohesion

As a process, it is tempting to view social cohesion as a harmonious or peaceful state of social interactions. And as an outcome of social interactions, it is equally alluring to see it as a static state of coexistence, devoid of problems. Since interactions are done by individuals and communities that differ in preferences, motives, aspirations, and resource endowments, aspects of conflict are unavoidable in real societies. Moreover, since individuals and communities have self-interests to promote, these interests can provoke conflict. A conflict disturbs an existing

state of a social interaction or an established outcome of that interaction. Thus, social cohesion can be viewed as a sort of *stable* equilibrium, the regulating mechanisms being institutional structures and people's motives for interactions. An important property of a stable equilibrium is its ability to re-establish itself after a disturbance. More concretely, and in terms of the issue at hand, in a socially cohesive society, different communities have a *desire* to remain together, even in times of disagreements or conflicts, and are receptive to new or established mechanisms for conflict resolution. Reception to such mechanisms is independent of whether the mechanisms are enforced or administered by domestic or external agents.

Not surprisingly, social cohesion as a state of stable equilibrium may not *always* be a good thing from a welfare standpoint. A society can be trapped in a state of social cohesion where rights of individuals or groups are denied, or at which the standard of living is uniformly poor for everyone, or depressingly low for some. Reforms that temporarily disrupt social cohesion may thus be needed to move society to a more prosperous or just equilibrium. For example, government can disrupt a state of unjust peace (Obama, 2009) by forcefully restraining a natural resource-rich segment of its population from forming a separate state. We are now only a short step from seeing that irrespective of whether the term 'social cohesion' is being used in reference to a process or an outcome it is *not* a state of perpetual peace or harmony. In human societies, disagreements, tensions and conflicts are common phenomena. Such social disruptions are to be expected given the diversity of motives and aspirations characterizing individuals and communities. However, if through repeated social interactions, a stable social equilibrium has been established, social disruptions would be temporary because underlying a state of stable social cohesion is a set of institutions that quickly address the causes of disruptions, such as lack of trust, information asymmetries or horizontal inequalities. While the term *equilibrium* has previously been used to describe stability of social interaction processes or their outcomes (see Stewart, 2002, p. 9), the novelty of this paper lies in the emphasis on 'stable equilibrium' as the defining aspect of social cohesion.

The key properties underlying a state of social cohesion are: (i) a strong desire by different individuals or sub-communities to remain together as one community; (ii) existence of mechanisms for settling differences and resolving conflicts; (iii) stability of individual and community behaviour and attitudes towards peace.

The first two properties are elements of a social interaction *process*. The third is an aspect of a social interaction *outcome*. When society is at a stable equilibrium, expectations of individuals and communities are generally being met. The term 'stable equilibrium' denotes the ability of communities to return to a non-conflict state within a 'short' duration after a disturbance. Conflict can take many forms, including fatal confrontations, hate speech, criminal behaviour, or internal displacement of individuals. A prolonged or intense state of conflict is a reflection of a major failure in institutions that structure social interaction and is inconsistent with the notion of social cohesion. In the same vein, frequent conflicts of a deliberate nature are incompatible with a cohesive society. However, short-lived or random, transitory episodes of conflicts, due to irrational behaviour of communities or their members, or to temporary institutional failures, can occur in a cohesive society. The essential point is that such departures from the desired norm – equilibrium, are short-lived or occur randomly.

Social cohesion can also be disturbed by non-conflict events, such as a change in the laws of the land, international trade shocks, inflows of foreign aid or investments, or a change in a tax code, all of which affect social interaction processes. Any factor that alters a social interaction process affects social cohesion. Needless to say, the resultant, new state of social cohesion may not be desirable from a welfare perspective.

In light of the above, social cohesion can be defined as a *stable* equilibrium of peaceful desires, attitudes and behaviours. In a cohesive society, change and peace are the norm, with conflicts occurring rarely and over short durations. That is, social cohesion is not a static social equilibrium, but rather a dynamic one. As already noted, non-conflict factors such as domestic reforms or inflows of external resources can change a social equilibrium. Moreover, individuals or communities can act collectively to change a social equilibrium through non-peaceful means. The key point to note is that such means should be employed over a relatively short duration to reach a socially desirable state of affairs – for example, a social equilibrium at which all communities have a better standard of living in contrast to an alternative situation where some communities live in poverty or lack basic rights.

2.2 Recapitulation

To summarize, social cohesion is a *stable* state of peaceful co-existence of individuals and communities. Over time, this state can be disrupted by policy reforms or by random o

deliberate episodes of short-lived violence. The process and outcome elements of social cohesion include unity, equity, freedom, democracy, just peace, absence of war or conflict, social justice, and rule of law. This multiplicity of elements indicates that there are different measures of social cohesion. The processes for achieving social cohesion comprise good governance, and activities that reduce inequalities, avoid social polarization, eliminate discriminatory practices, and empower citizens to embrace national symbols and values (Republic of Kenya, 2011; p. 10).

The foregoing process-and-outcome-aspects of social interactions are known collectively in some literatures as social cohesion. In other literatures (Friedkin, 2004), social cohesion is viewed as an outcome of processes only. An example of a process input into social cohesion (peace) is mutual trust across communities. As noted repeatedly, social cohesion is not always a harmonious state. The emphasis on rule of law, which is an element of processes for creating social cohesion, suggests an allowance for use of coercive institutions to protect the common good against self interests. Thus, a state of social cohesion has room for social protests, as might be staged for example, by groups being restrained by the state from occupying public areas such as forests or game reserves.

2.3 Describing groups or communities

There is now a need to describe a community. A community can be viewed as a 'label' by which a group of individuals is identified. A community can choose its own identification label, or the label can be imposed on it by other communities. An identity label can serve non-identification purposes as well, such as military, economic, political and cultural ends. Moreover, the label can be given a specific name, such as tribe, ethnicity, race, class, religion or caste.

If the labels are randomly assigned to groups, irrespective of such groups' *purpose* or *origin*, they would not be causally linked to fundamental aspects of communities, such as group prosperity, entrepreneurship or capacity to finance public goods. In that case, the labels would explain nothing (Lonsdale, 2012) about economic or social fundamentals, because such random assignment would not favor or disadvantage any group, with no community being assigned a superior or an inferior label.

However, if communities were to *organize* themselves or were to be *constructed* as *instruments* to achieve certain purposes, or organized as *ends* rather than as means (see Lonsdale, p. 22), their labels or identities could be correlated with factors that are linked to group attributes such

as prosperity, poverty, disease, political power or powerlessness. Thus, ethnic identities can appear to be the causes of divisiveness, civil wars, instability, wealth or poor health, when in fact the actual causes are quite different. If incidental factors – such as access to natural resources, political power, or access to health care, schooling or business opportunities – were to be isolated from ethnic identities, these latter would explain nothing about welfare outcomes within or across societies. It should be noted that testing this null hypothesis – that ethnic diversity has no effect on economic performance – is complicated by lack of appropriate data. We are able to estimate only the correlations between ethnic diversity and development.

Part III: Models Linking Social Cohesion to Socio-economic Performance

This part discusses determinants of social cohesion before addressing the issues associated with its measurement. Finally, Section 3 presents a review of the literature on the linkages between social cohesion and economic performance.

3.1 Modelling Social Cohesion

A model of social cohesion can be formulated using economic concepts of welfare functions and production functions. As is usually the case in exercises of this kind, progress in that direction cannot be made without basic assumptions, which in the present circumstance are:

- A. Social cohesion is a public good.
- B. The technology for producing social cohesion is available.
- C. Social cohesion cannot be produced without basic inputs, such as good governance, and fairness in the distribution of public services and employment.
- D. The inputs used to produce social cohesion have opportunity costs.
- E. Social cohesion and public goods are complements in the development process, i.e., a community's well-being increases only when both goods are being produced together.

Following Becker (1974, p. 1063), the determinants of social interactions at the macro-, rather than at the micro-level are:

- a. Social income, defined as the "sum of a group's own income and the monetary value" of its "social environment", where social income is a group's purchasing power derived from living in peace with other communities.
- b. The price of the social environment – i.e., the cost borne by groups to maintain and enhance a context of peaceful interactions.
- c. A government that makes transfers to all social groups because it cares about their welfare.
- d. Interdependence of communities: communities "act 'as if they loved' all other communities, even when they are really selfish, in the sense that they maximize not their own income alone" but social income.

Underlying point (d) above is a set of institutions that structure behaviours and attitudes of individuals and communities. Under such institutions, diverse communities operate as if they maximize a common welfare function rather than self-interests (Becker, 1974, 1981). This outcome rests on a further assumption that there exists a caring government that is capable of transferring purchasing power to all social groups in accordance with established rules for sharing social income. Social groups in this context have a desire to remain together. Moreover, in such society, the general population has trust in government. Thus trust, good governance, and horizontal equity are important determinants of social cohesion.

However, it is important to recognize that social cohesion is a scarce good that has to be produced. It follows therefore that social cohesion levels vary across communities and societies in accordance with the amount of resources devoted to its production. It is also evident that external resources can help low-income countries build capacities to produce social cohesion.

The production function for social cohesion can be written as:

$$S = f(X, E), \quad (1)$$

Where,

S = Social cohesion – an index of all its constituent components or some of its process or outcome elements;

X = Distribution of assets, social goods, physical infrastructure, and employment opportunities;

E = Social environment, e.g., ethnic diversity, age structure, general level of education, natural endowment, and population density.

Since social cohesion takes resources to produce, historical inequalities and the associated low levels of social cohesion are likely to persist for a long time in a resource poor economy. In equation (2), social cohesion can be enhanced by using foreign assistance to improve horizontal distribution of physical facilities, such as roads, schools, and clinics. In the same vein, development partners can work with national governments to build social cohesion by creating employment opportunities in disadvantaged or historically neglected communities. Equation (2) shows that the social environment can similarly be improved.

The social environment is a public good that allows all communities to fulfil their needs and aspirations. Thus, the free-rider problem is evident in the financing of interventions that enhance the social environment. An example of an important element of the social environment

is the fertility rate. A high fertility rate impairs society's ability to provide suitable schooling and employment for the youth, raising risks of social unrest among the youth. Foreign assistance and/or revenue from general taxation can be used to provide family planning and reproductive health services to the relevant age groups to reduce fertility and create an environment conducive to human capital formation and employment prospects for the youth. More generally, policy measures that influence X and E in equation (1) facilitate social interactions that are conducive to the building of social cohesion.

Once produced, social cohesion can be an important input into inclusive development. Thus, equation (1) identifies an important and time bound role for foreign assistance. In building social cohesion, foreign assistance is time limited because once social cohesion is created it can spur sustained economic growth (see equation 3). Moreover, as shown in equation (2) social cohesion can enter a social welfare function directly, under the assumption that it has an intrinsic value.

$$W = W(S, Z), \quad (2)$$

Where,

W = Social welfare measure;

S = Social cohesion, a society-level public good;

Z = Consumption of private goods and local public goods.

A good summary measure of the level of social welfare in a low income country is absolute poverty rate. We show in the empirical section of this report that consistent with equation (2) above, absolute poverty has a weak negative correlation with trust, a key element of social cohesion. Moreover, in line with equation (3) below trust is strongly positively correlated with labor income, a key determinant of poverty status.

As already noted, social cohesion is not only a final good that is intrinsically valuable but is also a factor of production capable of enhancing growth.

$$q = g(S, R) \quad (3)$$

Where,

q = growth in output or income;

R = Additional factors that affect growth, such as physical and human capital, financial depth, foreign exchange premiums, and governance structures.

It is important to note that because data is usually not available to permit inclusion of appropriate controls for social cohesion, S , parameter estimates for a growth equation such as (2b) can suffer from considerable bias. In the same vein, coefficient estimates for reverse regressions, e.g. investments in education and equipment, can be biased if appropriate controls for the role of social cohesion are not available.

3.2 Measurement Issues

The models of social cohesion presented in section 3.1 are conceptual in nature. In these models, social cohesion is both an end and a means. The general relationships in section 3.2 show how social cohesion is produced (equation (1)); how it is used as a final good, together with other goods that society needs (equation (2)); and its role as a factor of production (equation (3)). The models help in formulating hypotheses about the direction of correlation or causality between social cohesion and variables of policy interest, such as horizontal inequality, vertical inequality, social polarization, ethno-linguistic fractionalization of the population, economic growth, poverty, and demographics.

The purpose of this section is to present models for estimating parameters of the above conceptual relationships. Some of the variables for which parameters are to be estimated – such as horizontal inequality and social polarization – have to be generated. Models for generating these variables are also presented.

3.2.1 Structural models

Causal effects in conceptual models outlined section 2 can be estimated using the following statistical model (Wooldridge, 2002).

$$Y_o = a_o + a_1X + a_2Z + e_o \quad (4)$$

$$X = b_o + b_1Z + b_2W + u \quad (5)$$

Where,

Y_o = Outcome variable of interest, such as social cohesion;

X = Policy variable, e.g., horizontal equity, population polarization, ethnic diversity;

Z = Control variables, e.g., socio-demographics, such as age, area of residence, and gender;

W = instruments for X ;

e_o, u = disturbance terms; a and b are parameters to be estimated, where a_i has a causal interpretation.

3.2.2 Reduced form models

In some instances only reduced-form models can be estimated due to data limitations (Wooldridge, 2002). The reduced form version of equations (4) and (5) is:

$$Y = c_o + c_1Z + c_2W + v \quad (6)$$

Where, Y, Z and W are as previously defined; c and v are regression parameters and the error term, respectively; where, none of the regression coefficients has a causal interpretation.

3.2.3 Ethnic diversity and inequality measures

Many of the covariates in equations (4)-(6) are indices that must be computed before estimations can be performed. The indices quantify horizontal and vertical inequalities, population polarization and social fractionalization. With a few exceptions, the formulas used to compute the indices are extracted from Hino *et al.* (2012:83-86). Additional references that indicate original sources of the formulas or their earliest applications are provided.

Horizontal inequality: Group coefficient of variation (GCov). Horizontal inequality occurs when groups or individuals with the same characteristics are treated differently. To achieve horizontal equity, equal groups or individuals should be treated equally (Duclos, 2004). Thus, the first step to achieving horizontal equity is to identify the dimensions along which groups or individuals are equal.

The group coefficient of variation (Stewart, 2002; Stewart et al. 2010) shows the variation of welfare or endowment metrics across distinct ethnic groups. The GCov varies from zero to infinity with its higher values indicating greater degrees of horizontal inequity.

$$GCov = k \left(\sum p_i (y_i - y)^2 \right)^{1/2}$$

Where, k is normalization constant, defined as $1/\mu$, where μ is the population mean for y_i , and p_i is the share of group i in total population.

Montalvo and Reynal-Querol population polarization index (MRQ). The MRQ index (Montalvo and Reynal Querol, 2005) varies from zero to one, and approaches one when the population consists of approximately two equally sized groups.

$$MRQ = K \sum p_i^2 (1 - p_i)$$

Where, p_i is as previously defined, and $K=4$, a constant that ensures that MRQ is bounded between zero and one.

Ethno-linguistic fractionalization index (ELF). The ELF (Mauro, 1995; Easterly and Levine, 1997), is a measure of ethnic diversity or population fractionalization along ethnic and linguistic lines and is constructed using concentration formulas originally developed by Hirschman (1945, 1964) and Herfindahl (1950). ELF is the probability that two individuals randomly selected from the population belong to different ethnic groups.

$$ELF = 1 - \sum p_i^2$$

Where as before, p_i is the probability that any two individuals randomly picked from the population will belong to different ethnic groups.

Posner's Politically Relevant Ethnic Group (PREG). PREG (Posner 2004) restricts ELF to a subset of ethnic groups that engage in political competition.

$$PREG = 1 - \sum p_i^2$$

Where, $\sum p_i^2$ is constructed for ethnic groups that are politically relevant in the sense of being able to influence government policies.

Economic polarization: Esteban and Ray Index (ER). The ER index (Esteban and Ray, 1994, 1999) is a measure of polarization of population into distinct economic classes. The clustering of populations into different groups with similar levels of resource endowments can be a threat to social cohesion, distinct from that posed by inequalities among individuals without group memberships. The general class of ER indices is of the form:

$$ER = k \sum \sum p_i^{1+\alpha} p_j |y_i - y_j|$$

Where, p_i is as previously defined;

y_i is the economic endowment (income, asset, education) of group i ;

k is a normalizing constant, that can be set at $1/\mu$, where μ is the overall population mean for y_i ;

α is the degree of polarization sensitivity and varies from 0 to 1.16.

Vertical inequality: Gini coefficient (Gini index). Vertical inequality occurs when different groups or individuals are treated the same (Musgrave, 1990). Vertical equity is achieved when people or groups with different needs are treated differently. The Gini ratio can be used to measure horizontal or vertical inequality among groups or individuals. The Gini coefficient (Gini, 1921) is a special case of ER index and the group Gini can be expressed as:

$$\text{Group Gini Index} = k \sum \sum p_i p_j |y_i - y_j|$$

Vertical inequality (Atkinson's index). The expression for Atkinson's (1970) group inequality measure is:

$$\text{Atkinson's group inequality index} = 1 - \exp(-T);$$

Where, T is the Theil's (1967) group inequality measure which has the form:

$$T = \sum p_i (y_i/\mu)^c \log (y_i/\mu), c=1;$$

Where, c is inequality aversion parameter, which varies from zero to one, so that when $c=1$, society's aversion to inequality is at maximum and the incomes or other endowments of the poor receive high weights in the computation of T , thus increasing Atkinson's inequality measure.

Trust The above measures of inequality and polarization are strongly linked to the extent to which different ethnic groups in society trust each other. If for example, the ethnic group in power cannot be trusted by other ethnic groups, say in the process of equitable distribution of public goods, such mistrust can be a source of tensions across groups and could result in conflict (Dasgupta, 2009). Trust is measured using a dummy variable that takes a value of one (1) when ethnic groups trust each other, and a value of zero (0) otherwise.

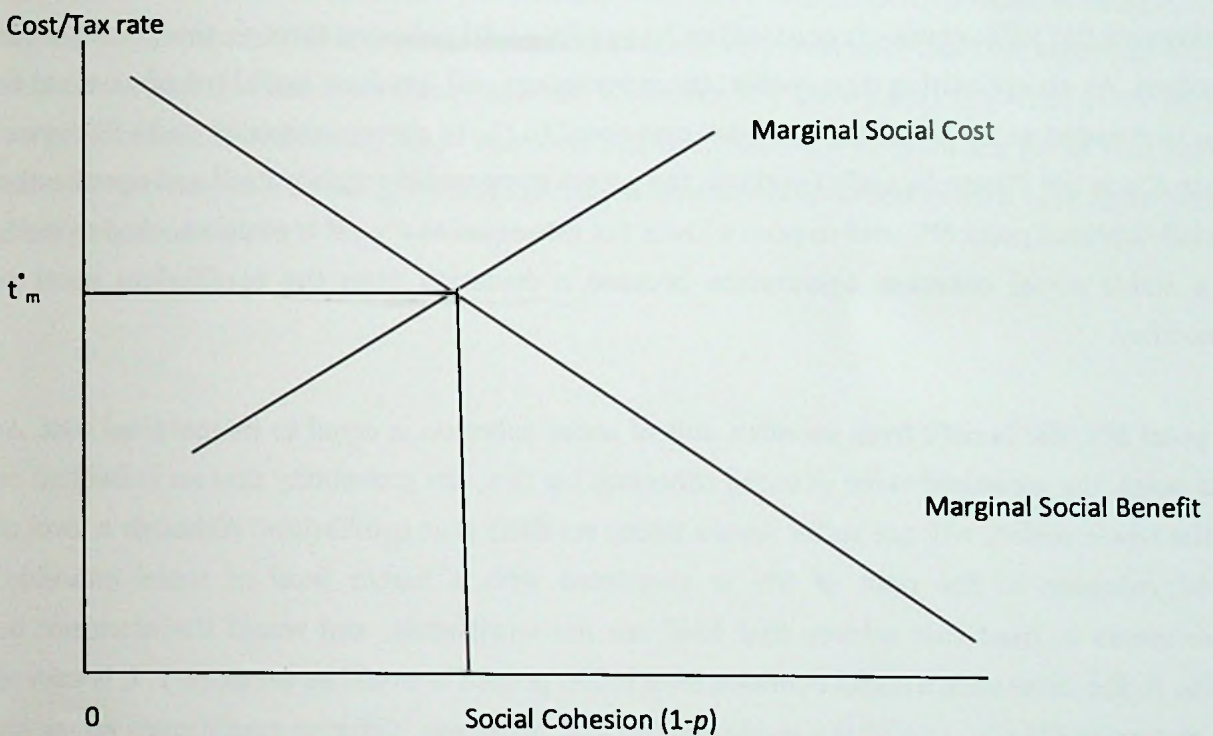
3.4 Ethnic violence as a measure of social cohesion

The indices presented in section 3.3 are the direct or indirect determinants of social cohesion. This section clarifies the concept of social cohesion. We assume that if countries experience *intense, prolonged, widespread* or *frequent* episodes of ethnic violence, then their populations are not cohesive. These negative aspects of social cohesion are briefly considered in the foregoing discussion. A country lacks social cohesion if its society is engaged in localized but *intense* ethnic conflict. A country is also without social cohesion if it is engulfed in *widespread* ethnic conflict, or suffers from *frequent* episodes of any form of ethnic conflict.

For measurement purposes, social cohesion takes a value of one (1) if any of the above states of violence is present and a value of zero (0) otherwise. Moreover, measurement of social cohesion can be done at any level in society. For example, as is true of a nation, an individual can suffer prolonged, frequent or intense ethnic violence. Evidently, such an individual would not be at peace with his neighbours. It is important to note that a dummy variable that takes a value of one when conflict occurs (and a value of zero otherwise) is a *negative* probabilistic measure of social cohesion. Thus, if the mean, p , of the dummy variable for conflict over a sample of individuals or over time periods, is the probability of conflict, then the probability of conflict absence ($1-p$) is a positive measure of social cohesion. Thus, as p tends to zero, the outcome of social interactions among communities tends to a state of peace. There is need to note that this tendency to peace is the same irrespective of whether social cohesion is measured at the local or national level, and irrespective of whether the data available for measurement is cross-sectional or time series.

Figure 3.1 concretizes the idea of social cohesion as a form of social equilibrium. Social cohesion ($1-p$) is plotted on the x -axis, where, p is the probability of occurrence of any of the three aspects of severe ethnic conflict. As already noted, ethnic conflict is “severe” if it is *intense, widespread or frequent*. Evidently, our probabilistic measure of social cohesion reaches a maximum value of one (1) when the probability of conflict is zero (0). On the y -axis, we plot the marginal social cost of social cohesion (i.e., the social cost of building trust across communities through programmes that address social inequalities and social polarization). Social inequalities and social polarization are negatively correlated with trust, which is in turn is associated with a low probability of ethnic conflict. That is, trust is good for social cohesion. In Figure 3.1, the marginal cost of social cohesion is upward sloping, reflecting the fact that resource expenditure is needed to reach a state of social cohesion (i.e., to avoid occurrence of an ethnic conflict).

Figure 3.1: Stable Social Cohesion Equilibrium



We also depict on the y -axis, the marginal benefit from social cohesion. This benefit arises because social cohesion is desired for its own sake, as well as for the reason that it can facilitate economic development. Needless to note that ethnic conflicts or tensions disrupt production processes, slowing growth or stopping it altogether, through the destruction of infrastructure or skilled labour (Collier and Hoeffler, 2004). Since social cohesion is a public good that people obtain at a price, its *marginal benefit schedule* is associated with a downward sloping *demand curve* for that good. As in the case of a monopolist the demand curve for social cohesion lies above its marginal benefit curve, but there is no need for this detail in Figure 3.1.

Although Figure 3.1 looks like an ordinary market equilibrium diagram, it is essentially quite different. To start with, since a market for social cohesion does not exist, the diagram does not represent an actual market exchange for this good. We assume that the government is the only entity in the economy with the capacity to produce social cohesion through trust building programs. Thus, the social marginal cost curve represents the cost of such programs to the government. Further, the demand curve (the marginal social benefit curve) in Figure 3.1 represents the willingness of communities to pay for social cohesion through acceptance of tax burdens. As an optimizing monopolist, the government will 'produce' social cohesion equal to S^*_M (measured as $1-p$), and impose a tax rate equal to t^*_m to cover production costs. However, since S^*_M is not Pareto (socially) optimal, the government would regulate itself and operate at a socially optimal point S^*_c , and impose a lower tax rate equal to t^*_c . It is easily checked that S^*_c is a stable social cohesion equilibrium because a deviation from the equilibrium point is transitory.

At point S^*_c , the benefit from an extra unit of social cohesion is equal to its marginal cost. At that point, the measured value of social cohesion, $1-p$ (i.e., the probability that an individual or or the whole society will not suffer severe ethnic conflict) is at equilibrium. Although a level of social cohesion to the right of S^*_c is associated with a higher level of social cohesion, investments in trust that achieve that level are not worthwhile, and would therefore not be made. In the same vein, a social cohesion level below point S^*_c would be temporary. It is easy to see that point S^*_c (i.e., $(1-p)^*$) is a stable equilibrium. Moreover, different equilibrium values for $1-p$ can be generated by shifting the cost and benefit functions for social cohesion, which can happen through random events, deliberate policy reforms or via external shocks. During out of equilibrium states, a cohesive society can experience sporadic but self-correcting episodes of

ethnic conflict. It is important to note that S^*_c (when social cohesion is in equilibrium) the probability of ethnic conflict is not zero.

The cases of unstable social cohesion equilibrium points can be demonstrated by assuming particular marginal cost functions for social cohesion. Although unstable equilibrium points are uninteresting, there is need to note that a deviation from an unstable equilibrium can successively lead to zero or excessive investment in social cohesion. Notice that if $p=1$, trust is equal to zero, and the value for social cohesion is also zero, then society is in full-scale conflict. In such a scenario, there would be no internal mechanisms in society to move warring communities to a state of peace. External intervention would be required for the re-establishment of peace, which is what happened in Kenya during the first quarter of 2008 following the disputed 2007 presidential elections.

The negative slope for the social marginal cost in Figure 3.2 (a), indicates that social cohesion is being produced under conditions of increasing returns to scale. Social programs designed to address social inequalities and social polarization could very well have this cost structure but it is acknowledged that this is an empirical issue. Moreover, in Figure 3.2(a), the slope of the social marginal benefit of enhancing social cohesion is greater than the slope of the social cost curve while the converse is true in Figure 3.2(b), with the prevailing situation in each case again being an empirical matter.

Figure 3.2 (a): Unstable Social Cohesion Equilibrium: Marginal Social Cost is Downward Sloping but its Slope is smaller than that of the Marginal Benefit Curve

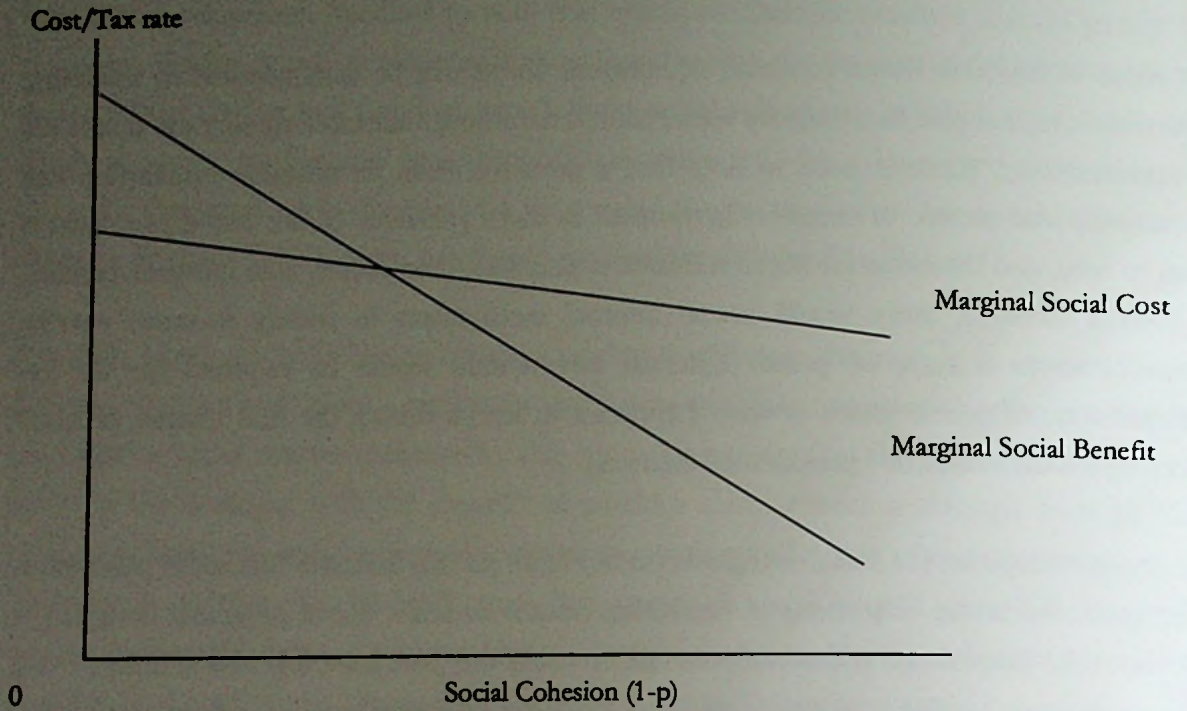
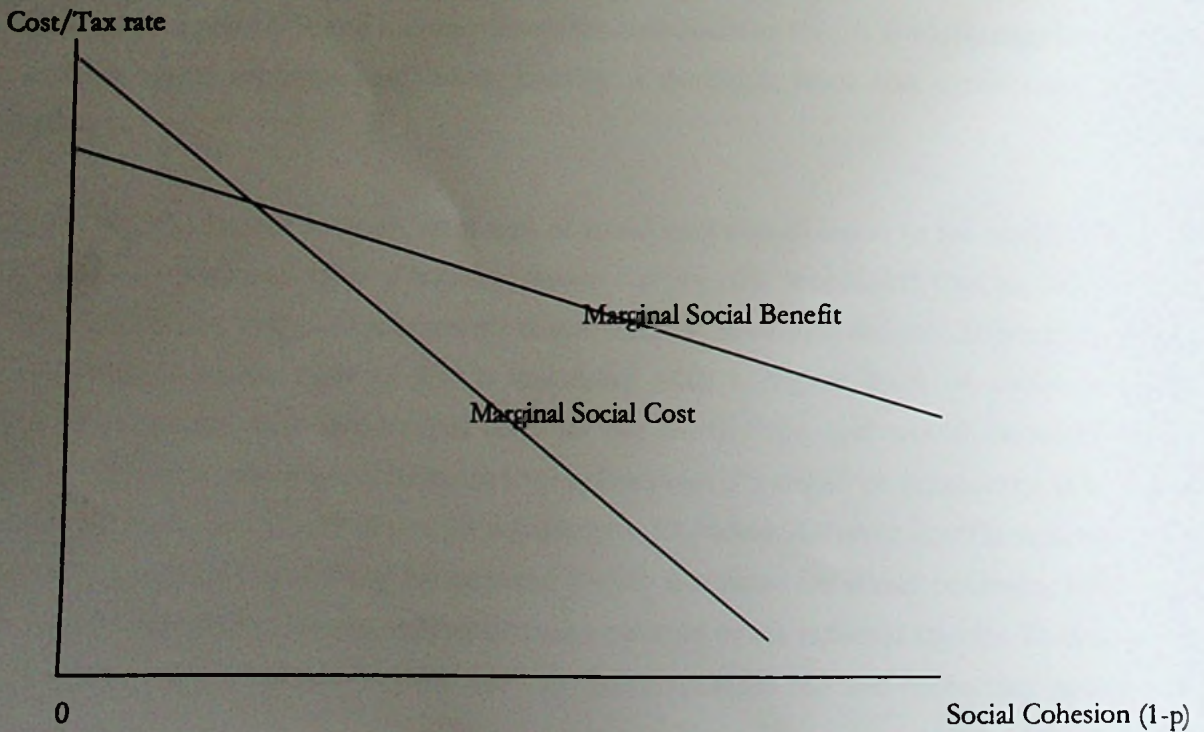


Figure 3.2 (b): Unstable Social cohesion Equilibrium: Slope of the Marginal Cost Curve is Greater than the Slope of The Marginal Benefit Curve



The disequilibrium situation to the right of Figure 3.2 (b) can lead to over-investment in social cohesion because once the maximum level of social cohesion is reached, trust building (through for example activities that reduce social inequalities and social polarization) would not enhance cohesion. Similarly, to the left of equilibrium in Figure 3.2(a), there exists incentives that eventually move the society towards zero demand for social cohesion. Since social cohesion is produced using fiscal resources, there exists a tax burden at which society's demand for social cohesion is zero. At that point (the origin of Figure 3.2 (b)), a multi-ethnic society does not want to stay together and is engulfed in a severe civil strife. As already noted such a society can remain together only through an external intervention.

A departure from social equilibrium can induce unbounded value for social cohesion. Since social cohesion is bounded at unity, additional investment in trust building would eventually yield no improvement in social cohesion. Since according to equations (1) and (2) in Section 3, both social cohesion and private goods take resources to produce – and are both welfare enhancing, the country would have too little of private consumption and/or of non-social cohesion goods. The reason is that total resources in an economy are limited so that if excessive amounts are spent on social cohesion, smaller quantities must be spent on private production and on other types of public goods. Consequently, a nation's standard of living can fall despite its high level of social cohesion. Again, external forces would be needed to return the country to a social equilibrium. It seems that a preoccupation with redistributive policies without regard to policies that enhance *overall* production efficiency can impoverish a cohesive society. And such a society is at risk of tipping over to a severe civil strife because of intense competition or struggle over basic needs. Similarly, a nation that is pre-occupied with economic efficiency is at risk of a civil strife due to excessive social inequalities.

The discussion in this section indicates that a country should pursue development policies that promote a stable social cohesion equilibrium. Furthermore, it has been shown that despite its abstract nature, social cohesion can be measured and analyzed. In practical terms, social cohesion is the probability of peaceful coexistence in a society, irrespective whether the society is ethnically homogeneous or diverse. More generally, social cohesion is a *stable probability* of a peaceful coexistence, which in practical terms is measured as $1-p$, where p is probability of conflict.

However, 'probability' is not a term found in everyday language; so an elaboration is needed. We view 'probability of peaceful coexistence' as the collective *degree* of belief that an individual or a community at large will not suffer ethnic-based violence. This degree of belief is measured on a zero-to-one scale. It takes a value of zero when one or more of the following is true: (i) there is widespread or prolonged civil strife; (ii) there is a localized intense violence; and (iii) there is frequent ethnic-based violence. The belief takes a value of one when none of the above situations is present. Since a 'degree of belief' is based on objective things in society, such as wealth inequalities and discrimination, ethnic conflict is less likely to occur when for the society as a whole or for a dominant section of it, this probabilistic measure is close to one. In contrast, ethnic conflict is likely to happen when the measure is close to zero. Furthermore, a collective degree of belief about conflict occurrence has economic and welfare consequences. A widespread belief that conflict will occur can lead to panic, directly reducing wellbeing and creating a disincentive to invest in physical and human capital. Thus, social cohesion, as a quantitative or qualitative phenomenon has major consequences for wellbeing and development.

IV. Overview of the Literature

The analytic concepts outlined in Sections 3.1 and 3.2 are essential for a critical review of the literature on relationships between ethnic diversity, inequalities, civil strife, social cohesion, and economic development. There are four branches of literature in this area. The first branch argues that ethnic diversity, as measured for example by the ethnic fractionalization index, is a major *indirect* cause of poor economic performance in Africa (Mauro, 1995; Easterly and Levine, 1997, Collier and Gunning, 1999). The second strand of the literature argues that ethnicity is associated with civil wars and conflicts, but that this relationship is non-linear (Collier, 1998; 2004). The third branch contends that large horizontal inequalities are major barriers to social cohesion (Stewart, 2002; Stewart et al. 2010). The fourth and most recent literature casts doubt on both direct and indirect economic and social effects of ethnic diversity, arguing that in and of itself, ethnic identity or diversity explains nothing about performance of economies, or social welfare (Hino et al., 2012). The main contribution of this new literature is the generation of concepts and evidence on connections between ethnic diversity and socioeconomic development in African contexts.

4.1 Ethnic fractionalization and economic growth

The critical argument of the literature in this area is that ethnic diversity affects economic growth through its effects on public policies, which in turn affect economic inputs such as schooling, credit availability and infrastructure (Easterly and Levine, 1997). Further, this literature argues that ethnic divisions are conducive to assassinations that are linked to political and economic instabilities. Cross country econometric evidence shows that growth is indeed correlated with inputs that are negatively affected by ethnic divisions. In an early work, Mauro (1995) used similar evidence to show that ethnic diversity reduces economic growth by creating an environment conducive to corruption. Recognizing that corruption is endogenous to growth, he used the ethno-linguistic fractionalization index (see Posner, 2004) as an instrument for corruption. In a growth model in which corruption was an endogenous regressor, Mauro (1995: 683) treated ethnic fractionalization as exogenous to both growth and corruption, and credibly used it as an instrument for corruption. Under that strong assumption, he identified a negative effect of corruption on investment and growth.

However, since ethnic diversity may not be exogenous to economic growth, there is need to interpret with caution the findings reported by Mauro (1995), Easterly and Levine (1997) and the related literature (see Posner, 2004). In particular, since ethnic diversity may change with growth or with variation in economic circumstances of communities (see Hino et al., 2012), the poor growth or investment associated with diversity could be due to other factors, such as climatic conditions of lands occupied by different ethnic groups. Collier (2004) has also argued that whether diversity negatively affects growth depends on the political context of a country, suggesting that diversity affects economies indirectly.

4.2 Ethnic divisions and civil conflicts

Collier and Hoeffler (2004) show that ethnic diversity is correlated with ethnic conflict: but they also show that the relationship is not linear as the risk of violence varies in countries with low and high measures of ethnic fractionalization. Their findings suggest that in democracies, certain levels ethnic fractionalization can reduce the risk of ethnic violence. Here again, there is no clear causal evidence linking ethnic diversity to ethnic violence or political instability.

4.3 Horizontal inequalities and social cohesion

Horizontal inequalities are disparities across groups in at least four aspects: economic, social, political and cultural dimensions (Stewart et al., 2010). There is strong evidence that horizontal inequalities along these dimensions are positively correlated with ethnic tensions and social upheavals (Brown and Stewart, 2012). However, the mechanisms through which group inequalities cause conflicts remain unclear. Hino et al. (2012: 13) conclude that: "Ethnic diversity itself does not appear to be correlated with instability. Rather, it is the degree of inequality among ethnic groups (horizontal inequality) that is closely correlated with instability."

4.4 Ethnic diversity as a resource

There is experimental evidence from Kenya that "trading between two ethnic groups can stabilize markets and also bring about a more equitable income" (Shimomura and Yamato,

2012). The authors note that “The participation of the Kalenjin people in the experimental market significantly facilitated *prompt* trading at the exact point of the intermediate equilibrium” (Shimomura and Yamato, 2012: 308; emphasis not in the original). The authors stress that participation of the Kalenjins quickly drove negotiations to market clearing prices; but they offer no explanation for this surprising finding. It is however noteworthy that Shimomura and Yamato cite Roth et al. (1991) who had shown that previous market experience of persons participating matters for the outcomes of that market. It is possible that the Kalenjin students had previously participated in livestock markets, and drew from that experience for the experiment. In remote pastoral areas, people must travel considerable distances to buy or sell livestock. In such circumstances, there is urgency in people concluding trades in good time for the return journey. Even if the Kalenjin students had themselves not previously participated in livestock markets, their cultural background could have given them an orientation for quick market transactions. Thus, what was probably picked up by the experiment is not the effect of ethnicity on market transactions, but the effect of the students’ *upbringing background* that is obviously strongly correlated with ethnicity. The Kikuyu or Luo students with similar upbringing contexts as the Kalenjins might have displayed analogous trading behaviours. Although the mechanism through which ethnic diversity improves market outcomes in the Kenyan experiment remains unclear, it is clear that ethnicity can interact with unobserved factors to significantly influence economic and social outcomes. However, this issue cannot be addressed experimentally because there is no way of randomizing ethnicity to observe its effects on performance of economies. We view ethnic diversity as a resource when different ethnic identities interact with observed or unobserved factors to positively influence economic performance.

Part V: Development and Social Cohesion

5.1 *Ethnic Diversity and Development*

In this sub-section we examine relationships between ethnic diversity and economic development. We start by examining linkages between ethnic diversity and factors associated with development, such as road networks and public expenditures. Next we look at correlations between ethnic diversity and development -- proxied by income or poverty.

Table IV–1 shows that the main measures of ethnic diversity available in the literature are positively correlated with determinants of development – such as log of roads (kms of paved roads within a county), log of CDF expenditure (annual expenditure of the allocations made by the Treasury to constituencies), log of expenditure of Local Authority Transfer Funds (LATF; annual discretionary expenditure by local authorities, typically on public services), and log education (years of schooling). For example, a percentage increase in the ethno-linguistic fractionalization (ELF) index is associated with 1.71 per cent increase in a county's road network. The signs of the above correlations are unaffected by the inclusion of the relevant controls (location, age and gender) in the estimating equations.³⁴ The Kenyan results shown in Table IV–1 contrast strongly with negative correlations between ethnic diversity and public goods provision reported from cross-country regressions fitted on macro level data (Easterly and Levine, 1998; Posner, 2004).

³⁴ These additional regression correlation results are available on request.

**Table IV-1: OLS Correlations between factor inputs and ethnic diversity –
Dependent Variables: Determinants of Development (Robust Standard
Errors in Parentheses)**

Determinants of Economic Development	Measures of Ethnic Divisions					Counties=C; R-Sq.=R ² ; Obs =N.
	Ethno-Linguistic Fraction. Index	Politically Relevant Ethnic Group (PREG) Index	Montalvo and Reynal Querol (MRQ), Ethnicity	Montalvo and Reynal Querol (MRQ), Religion	Constant	
Log of Roads Network	1.713** (.063)				3.983 (.028)	R ² =.170 N=2706 C=45-47
		.425** (.075)			4.679 (.020)	R ² =.031 N=1506 C=45-47
			.616** (.066)		4.253 (.031)	R ² =.028 N=2706 C=45-47
				2.828 ** (.063)	2.283 (.051)	R ² =.260 N=2712 C=45-47
Log of CDF Expenditure	.128** (.025)				18.96 (.014)	R ² =.005 N=2686 C=45-47
		-.099* (.030)			19.12 (.015)	R ² =.008 N=1486 C=45-47
			.063* (.032)		18.97 (.016)	R ² =.061 N=2686 C=45-47
				.406** (.034)	18.67 (.023)	R ² =.021 N=2692 C=45-47
Log LATF Expenditure	3.38** (.076)				19.15 (.024)	
		1.963** (.103)			19.71 (.023)	R ² =.293 N=1506

						C=45-47
			1.621** (.077)		19.51 (.027)	R ² =.131 N=2706 C=45-47
				1.818** (.045)	18.75 (.031)	R ² =.071 N=2712 C=45-47
Log of Schooling	.927 (.069)				1.471 (.033)	R ² =.054 N=2445 C=45-47
		.586** (.067)			1.67 (.039)	R ² =.042 N=1498 C=45-47
			.414** (.076)		1.587 (.039)	R ² =.013 N=2445 C=45-47
				1.246** (.106)	.781 (.086)	R ² =.056 N=2540 C=45-47

*p=.05, **p=.01.

Table IV-2 reports correlations between ethnic diversity and indicators of economic development (poverty and labour income), and between ethnic diversity and proxies for human development (female and male literacy rates). The results indicate that ethnic diversity is negatively correlated with poverty (as in Hamaguchi (2012) and Alesina and Ferrara (2005)), and positively correlated with growth in labour income (as in Alesina and Ferrara, op cit), in contrast to the macroeconomic literature that reports a negative correlation between ethnic fractionalization and long-run growth (Mauro, 1995; Easterly and Levine, 1998). The correlation between ethnic diversity and human development indicators is generally positive. The correlation between male literacy and PREG (politically relevant ethnic group) is negative; but this coefficient turns positive and statistically significant (coeff. =17.51, $t = 19.89$) when account is taken of the fact that PREG is endogenous. Similarly, the correlation coefficient between female literacy and PREG (coeff. = 0.321, $t = 0.28$) increases and becomes statistically significant (coeff. = 34.73, $t = 24.52$) when PREG is endogenized. We instrument PREG with population densities of ethnic groups, this density being a good instrument for PREG because the higher that density, the greater the likelihood of the group being part of government or

influencing government policies. As argued in the literature (see e.g., Posner (2004)), PREG's correlation with development outcomes is through government policies.

Table IV-2: Development and ethnic diversity – Dependent Variables: Poverty, labour income and literacy (Robust standard errors in parentheses)

Indicators of Development	Measures of Ethnic Divisions					Counties=C R-Sq.=R ² Obs =N
	Ethno-Linguistic Fraction. Index	Politically Relevant Ethnic Group (PREG) Index	Montalvo and Reynal Querol (MRQ) Index, Ethnicity	Montalvo and Reynal Querol (MRQ), Religion	Constant	
Economic Development Indicators (Income Poverty and Labour Income)						
Log of Poverty (Head Count Ratio)	-.625** (.027)				3.926 (.011)	R ² =.159 N=2706 C=45-47
		-.178** (.030)			3.680 (.012)	R ² = .028 N= 1506 C= 45-47
			-.204** (.026)		3.820 (.012)	R ² = .0201 N= 2706 C= 45-47
				-.843** (.017)	4.399 (.011)	R ² = .161 N= 2713 C= 45-47
Log of Annual Labour Income	1.353** (.067)				8.629 (.028)	R ² = .137 N= 2374 C= 45-47
		.998** (.067)			8.753 (.035)	R ² = .133 N= 1443 C= 45-47
			.620** (.068)		8.795 (.033)	R ² = .034 N= 2374 C= 45-47
				.858** (.087)	8.377 (.07)	R ² = .031 N= 2465 C= 45-47
Human Development Indicators						
Male Literacy	13.632** (1.033)				80.37 (.527)	R ² = .058 N= 2706 C= 45-47
		-2.659 (.724)			90.16 (.184)	R ² = .012 N= 1506 C= 45-47
			6.57** (1.15)		81.81 (.651)	R ² = .017 N= 2706 C= 45-47
				53.55** (1.26)	42.32 (1.019)	R ² = .494 N= 2712

						C= 45-47
Female Literacy	24.33** (1.36)			67.47 (.827)	R ² = .021 N= 2706 C= 47	R ² = .098 N= 2706 C= 45-47
		.321 (1.128)			78.36 (.280)	R ² = .0001 N= 1506 C=45-47
			10.18** (1.48)		67.47 (.827)	R ² = .021 N= 2706 C= 45-47
				76.99** (1.32)	11.05 (1.06)	R ² = .546 N= 2712 C= 45-47

*p=.05, **p=.01.

The similarity between our findings (Table IV-3) with those reported by Hamaguchi (2012) is noteworthy because although the data from the same country are used the data sets themselves are quite different. Hamaguchi used a combination of data from the 1999 census and secondary data from UNDP reports. In contrast, our analytic data set comes from the census data for 2009, supplemented with data from national budget and expenditure documents prepared by the Kenya National Bureau of Statistics (KNBS) (Republic of Kenya, 2006). We constructed our own labour income using data from KIPPRA's Knowledge Attitudes Practices Survey (KAPS) and from Mincerian wage estimates based on KIHBS for 2006 (Onsomu, 2012).

In Table IV-3, we follow Hamaguchi (2012) and look closely at the relationship between poverty and ethnic diversity, netting out effects of confounding factors, such as road infrastructure, schooling and social expenditures. The estimation results reported in Table IV-3 show that after accounting for correlations due to factor inputs and social demographics, the correlation between ethnic diversity and poverty becomes statistically insignificant (coeff = -.041, $t = .034$).

Table IV-3: Poverty and ethnic divisions-Dependent variable is income poverty (Robust standard errors in parentheses)

Variables	Models#			
	(1)	(2)	(3)	(4)
Location (1=Rural)	-.031 (.016)	-.003 (.018)	.016 (.021)	-.058 (.020)
Age	-.017** (.005)	-.004** (.006)	-.004 (.006)	.003 (.006)
Sex (1=Male)	-.033**	.012	.014	.021

	(.013)	(.015)	(.015)	(.014)
Log of Schooling	-.037** (.006)	-.047** (.008)	-.046** (.008)	-.034 (.007)
Log of Roads	-.185** (.009)	-.238** (.015)	-.213** (.021)	-.325 (.021)
Log of CDF Expenditure	.148** (.015)	.148** (.019)	.163** (.021)	.103 (.020)
Log of LATF Expenditure	-.088** (.010)	-.064** (.011)	-.092** (.019)	.048 (.021)
ELF	-.041 (.034)			
PREG		.085** (.027)	.2009** (.073)	-.380 ** (.079)
PREG Residual			-.135 (.078)	-.446 (.083)
Sample Selection Term				-.479** (.033)
Constant			2.85 (.341)	2.449 (.346)
R-Squared	.509	.507	.562	.571
F-Statistics (p-value)	303.5 (.000)	181.7 (.000)	201.4 (.000)	187.7 (.000)
Number of Observations	2354	1423	1423	1423
Number of Counties	45-47	45-47	45-47	45-47

*p=.05, **p=.01.

#See Table IV-8 for selection and reduced-form equations for models 2-3.

However, the assumption that ethnic fractionalization is exogenous is too strong. We weaken this assumption by constructing an ELF only for the politically relevant ethnic groups, which actually engage in “competition over resources and policies” (Posner, 2004: 854), because it is through such competition that ethnic diversity affects public goods provision and the establishment of institutions, both of which determine the functioning of economies.

PREG reflects three aspects of political competition: (i) criteria for group's relevance or importance in a government; (ii) mechanisms by which a group may be excluded from government or from political competition; and (iii) the coalitions that the relevant groups might form to realize their competition objectives. To the extent that these aspects are linked to the outcome that PREG is designed to influence through competition, PREG is potentially endogenous, a point which Posner (2004) theoretically examines at great length. In Table IV-3, we test and reject the assumption that PREG is exogenous to our poverty measure, the headcount ratio. Since the ethnic groups that do not actually compete over policies are left out from the sample used to construct PREG, the estimation results reported in Table IV-3 (column 4) have been corrected for sample selectivity bias. The results show that a percentage increase in PREG is associated with a .38 percent reduction in poverty. Hamaguchi (2012) who reports a similar finding using ELF as a measure of ethnic diversity argues that whether or not ethnic fractionalization is associated with a reduction in poverty, or with an increase in income, is an empirical matter. He argues that whether the correlation between ethnic diversity and economic performance is positive or negative depends on the context being analyzed. In some cases, ethnic diversity is associated with better functioning of markets or with positive externalities of social interactions. In such circumstances, ethnic diversity would be positively correlated with economic performance. As emphasized by Lonsdale (2012), ethnic diversity *per se* explains nothing about performance of economies.

4.2 Inequality, polarization and trust

As argued in Section 3, trust is a key element of social cohesion. Table IV-4 shows the factors with which trust is correlated. The table shows that measures of polarization and inequality are negatively associated with the probability that a person from a given ethnic group will trust someone from other ethnic groups.³⁵ The tendency to mistrust people from other ethnic groups is higher among urban residents and lower for males. Education is positively correlated with trust (as in Nye et al., n.d), but the correlation is statistically insignificant. Another important correlate of trust is ethnic-based discrimination. As can be seen from the appendix Table A3, trust is negatively correlated with discrimination (coeff. = - 0.104; t = 5.76)

³⁵ The trust data employed is based on KAP survey (KIPPRA, 2011).

Table IV-4: Trust, inequality and polarization (Dependent variable=Trust=1 if members of other ethnic groups can be trusted), Robust standard errors in parentheses

Variables	Models			
	(1)	(2)	(3)	(4)
Location (1=Rural)	.027 (.018)	.046 (.019)	.068 (.019)	.034 (.019)
Age	.056 (.042)	.067 (.043)	.053 (.043)	.068 (.043)
Age Squared/100	-.675 (.635)	-.943 (.649)	-.679 (.638)	-.961 (.650)
Sex (1=Male)	-.037 (.017)	-.042 (.017)	-.038 (.017)	-.043 (.017)
Log of Schooling	.012 (.008)	.002 (.008)	.001 (.008)	.003 (.008)
Group Coefficient of Variation, <i>Schooling</i>	-.189** (.026)			
Group Coefficient of Variation in <i>Wages</i>		-.019** (.007)		
Esteban-Ray Polarization Index of <i>Schooling</i>			-.409** (.066)	
Atkinson's Group Inequality Gini for <i>Wages</i>				-.089* (.043)
Constant	.862 (.071)	.757 (.074)	.776 (.069)	.767 (.080)
R-Squared	.028	.009	.021	.007
F-Statistics (p-value)	11.2 (.000)	3.31 (.003)	8.44 (.000)	2.81 (.010)
Number of Observations	2323	2283	2323	2283
Number of Counties	45-47	45-47	45-47	45-47

*p=.05, **p=.01.

4.3 Ethnic conflict and trust

Having examined the correlates of trust, we look at the linkages between trust and ethnic conflict. As can be seen from Table IV-5, trust is negatively correlated with an individual's probability of reporting having been affected by post-election violence in 2008. However, fractionalization and polarization along ethnic or religious lines is positively correlated with an individual's ethnic-based conflict. Persons who lived in areas marked by high fractionalization or polarization faced higher risks of violence immediately after the disputation of presidential elections in 2008. However, this finding emerges only when trust is instrumented with the distance of an individual's area of residence from Nairobi; trust is correlated with this distance (Table IV-6). In Table IV-5, column 4, the estimated OLS correlation between ethnic violence and trust is positive and statistically insignificant. Distance from Nairobi can reasonably be linked to generalized trust. Although frequent interactions among communities is conducive to the building of mutual trust across groups, it can also cause disappointments when in the process of interactions, members of one group experience discrimination or unfair treatment by members of other groups. In this data set negative externalities of social interactions seem to be absent in non-cosmopolitan settings and in ethnically homogeneous areas. This is probably the reason why in Table IV-5 distance from Nairobi is positively associated with trust. The basic assumption involved in interpreting the coefficient on trust is that distance from Nairobi is correlated with ethnic violence through trust. That is, the direct correlation between ethnic violence and distance from Nairobi is zero; however the distance from Nairobi is correlated with trust.

Table IV-5: Social cohesion, trust and ethnicity diversity (Dependent variable: Ethnic conflict =1 if respondent was affected by post-election violence), Robust standard errors in parentheses

Variables	Estimation methods ([1-3 =2SLS]; 4=OLS)			
	(1)	(2)	(3)	(4)
Trust (=1 if members of other ethnic groups can be trusted)	-1.505** (.375)	-3.000 (.789)	-1.676 (.308)	.007 (.021)
Location (1=Rural)	-.059 (.039)	-.149 (.068)	-.289 (.037)	-.339 (.018)
Age	.001	.092	.047	-.065

	(.084)	(.154)	(.085)	(.043)
Age Squared/100	.169 (.012)	-.011 (.021)	-.749 (.013)	.833 (.006)
Sex (1=Male)	-.049 (.033)	-.124 (.063)	-.099 (.036)	-.019 (.017)
Log of Schooling	-.003 (.011)	-.003 (.021)	.008 (.016)	.015 (.008)
Ethno-linguistic Fractionalization Index	1.03 (.072)			
MRQ Fractionalization Index		.808 (.131)		
MRQ, Religion			.532 (.089)	.317 (.041)
Constant	1.176 (.299)	2.267 (.598)	1.352 (.235)	.325 (.073)
R-Squared174
F-Statistics (p-value)	47.2 (.000)	10.49 (.000)	22.74 (.000)	70.79 (.000)
Number of Observations	2323	2323	2323	2364
Number of Counties	45-47	45-47	45-47	45-47

*p=.05, **p=.01.

Together, Tables IV-4 and IV-5 suggest that inequalities, injustices, and social polarizations provoke ethnic violence through their influences on trust. The results in Tables IV-4 and IV-6 can also be interpreted together with findings in Tables IV-1 to IV-3. The correlation between economic performance and ethnic diversity is mediated by trust. Trust seems to have major implications for political and economic outcomes. Trust – people’s tendency to believe others (or to judge them favourably) without evidence or conditions – is arguably the overarching institutional variable in an economy. It determines the nature and outcomes of social interactions, including the stability of the social cohesion itself.

In Table IV-6, we report correlations between trust and ethnic violence controlling only for effects of ethnic diversity. As in Table IV-5, which in addition controls for the effects of location, age, gender and schooling, the coefficient on ethnic trust is negative and statistically significant

in all model specifications. The results suggest that in a multi-cultural society, an individual's risk of experiencing ethnic based violence is negatively correlated with generalized trust. Trust and risk of ethnic violence are negatively and strongly correlated. The coefficients on trust in Table IV-6 are in line with Dasgupta's (2009: 3306) remark that "rebuilding a community that was previously racked by civil strife involves building trust."

Table IV-6: Ethnic conflict and ethnic fractionalization (Dependent Variable, CONFLICT =1 if respondent experienced violence in 2008)

Variables	Parameter Estimates (Robust Standard Errors in Parentheses)			
	(1)	(2)	(3)	(4)
Trust (1= trusts other groups)	-571* (.255)	-4.010** (1.171)	-3.515** (.952)	-2.183** (.371)
ELF	-868** (.196)			
ELF SQ	2.471** (.225)			
PREG		2.133** (.248)		
PREG_SQ		-1.467** (.251)		
MRQ, Ethnicity			.952** (.154)	
MRQ, Religion				.586** (.109)
Constant	.571 (.183)	.760 (.151)	2.667 (.715)	1.541 (.269)
R-Squared	..			
F-Statistic (p-value)	961.5 (.000)	14.94 (.000)	20.4 (.000)	21.3 (.000)
Observations	2397	1481	2397	2436

*p=.05, **p=.01.

Moreover, in accordance with the earlier literature (Collier and Hoeffler, 2004), there is an inverted U-shaped relationship between PREG and ethnic conflict (column 2). That is, at lower and higher levels of PREG, the risk of an individual encountering ethnic conflict is smaller than the risk at intermediate levels. However, in column (1), the opposite relationship is observed, where probability of an individual experiencing ethnic violence initially falls with ELF before it rises. The literature reports the inverted U-shaped conflict-diversity relationships using the ELF measure of ethnic diversity, rather than Posner's (2004) PREG measure. The regression results in Table IV-6 (column 1) show that the ethnic conflict curve is convex in ELF. However, column (2) shows that the probability of an individual reporting conflict is concave in PREG.

Thus, contrary to the dominant literature in this area, the shape of the ethnic diversity function is context specific, and is sensitive to how ethnic diversity is measured. The ELF measure suggests that the probability of ethnic conflict is higher in diverse than in homogeneous societies. Column (2) shows that the risk of conflict is higher at the intermediate range of ethnic fractionalization. In column (2), a low level of ethnic conflict can occur in both homogeneous and heterogeneous communities. Together, the findings in columns (1) and (2) suggest that high risks of ethnic conflicts exist in homogeneous as well as in diversified societies. This observation is consistent with the African experience where ethnic conflict has occurred in both homogeneous and heterogeneous communities.

The interpretation of the coefficients on ethnic diversity measure in columns (1) and (2) is not as intuitive as the shapes of the curves suggest. It is easily checked – from simple calculations based on first order and second order correlations of ethnic diversity with ethnic conflict – that a marginal increase in social fragmentation is associated with an increase in the probability of reporting ethnic violence irrespective of the shape of violence curve. However, this result is generated by the particular data set. In general a marginal increase in social fragmentation may be associated with an increase or a decrease in ethnic conflict. In our case, a marginal increase in social fragmentation happens to be associated with violence elevation.

As can easily be shown, the partial derivative of ELF with respect to the probability of experiencing ethnic conflict is $(-0.868 + 5.942\text{ELF}^*)$, and that for PREG is $(2.33 - 2.933\text{PREG}^*)$, with the asterisk denoting the sample mean. From Table A2, the sample means for ELF and PREG are .31 and .59, respectively, so that the partials for the conflict curve with respect for ELF and PREG are .974 and .402, respectively. Thus, a 10% increase in ELF is associated with a

.0974 percent elevation in the probability of conflict, whereas the same rise in PREG is associated with a .0402 percent increase in violence. It is important to stress that the positive signs of these partial derivatives depend on the particular data set analyzed. Negative and neutral empirical signs are possibilities.

The question now is whether ethnic diversity can be modified by public policy, thereby altering the risks of ethnic violence inherent in societies. This is a difficult question given the nature of our evidence. We only know that ethnic violence and ethnic diversity are correlated. Since our hypothesis is that ethnic diversity on its own has no effect on conflict, the relevant policy issue is not whether ethnic diversity should be changed, but how to address the factors that interact with it to influence ethnic conflict. The policy challenge is to identify and tackle such factors. From the earlier analysis, it seems that horizontal inequalities and social polarization are some of the factors to be considered. Furthermore, the historical literature shows that over time, communities do amalgamate or split (Lonsdale, 2012; Ogot, 2012). Since the context is over a long time span, ethnic diversity is a *variable*, meaning policies can be implemented to influence it in particular directions.

Finally, we consider the association between trust and poverty as well as wages. The results in Table IV-7 show that trust is negatively correlated with poverty, but the correlation is statistically insignificant. However, the finding is noteworthy because controlling for dispersion of the population from Nairobi (log of distance of a person from a particular ethnic group from Nairobi), an increase in trust (an element of social cohesion) is associated with a reduction in poverty. Using the same controls, the log of monthly wage is positively and significantly correlated with trust.

Table IV-7: Correlations between social cohesion and welfare metrics – dependent variables = log of poverty and log of wages

Variables	Log Poverty (Coefficients)	Log Wage (Coefficients)
Trust of others (=1 if other communities can be trusted)	.011 (.0136)	.129** (.048)
Distance	0.002** (.000045)	-0.00257** (.0002)
Distance squared	-0.000012** (.000000048)	0.000016** (.0000002)
Constant	3.25** (.013)	9.458** (.047)
R-Squared	.5864	.5864
F-Statistics (p-value)	1160 (.000)	102 (.000)
Number of Observations	2397	2362
Number of Counties	45-47	45-47

*p=.05, **p=.01; Robust standard errors in parentheses.

Part VI: Summary and Conclusions

Throughout its early history, the territory that became Kenya maintained importance for successive early visitors to the East African coast. The earlier aliens on the territory -- the Arabs and Portuguese – soon gave way to the British whose interests were more permanent. In their desire to control the source of the River Nile, the British constructed the Mombasa to Uganda railway line, whose economic viability and maintenance was premised on successful settler agriculture. The European settlers arrived in the territory in large numbers as its status changed from being a mere protectorate to a colony. The choice of European settlement in the territory would have enduring ramifications for equality and social cohesion in the country. A negotiated independence was won in 1963, after a long struggle that included the vicious, even if short-lived *Mau Mau* armed uprising.

The arriving settlers had chosen for colonial expropriation the prime AEZs of the territory, pushing former tenants that land into an extensive in-country Diaspora in marginal areas. Having thus chosen the best land, the colonial government focused the bulk of its public investments – and the consequent private investments – in these areas, in total disregard of the 'native reserves' which had been set aside for the indigenous people. Unfortunately for Kenya, equality and social cohesion, the first independence government adopted a development strategy – Sessional paper No. 10 of 1965 – that declared commitment to a country-wide eradication of poverty, disease and ignorance, but also declared a public investment focus on areas with a high absorptive capacity, the very areas of colonial government focus. In the absence of an effective redistribution framework, Sessional Paper No. 10 of 1965 had the effect of widening welfare inequalities. Into independence, public appointments became highly parochial; and the collapse of public spending scrutiny meant that communities and areas which were in favour with the centre of government benefited at the expense of the rest of the country. This was the mode of operation under successive regimes, the circumstances of the lagging areas being worsened by exogenous factors, such as the adverse global economic circumstances, bad weather, and poor social and physical infrastructure, amongst other adversities.

These circumstances heightened people's perceptions in lagging areas that the government is alien to them. In turn, this raised the profile of the key office of the government, the presidency, suggesting that such lagging areas would only have 'their turn to eat' if one of their own was in State House. Thus, for a long time Kenyan politics ignored the core objective of the development

process – the sustained reduction of poverty, disease and ignorance, and instead concentrated on the objective of acquiring political power. Kenyan politics since colonial rule has been characterised by some violence. People’s accumulated frustration with this violence was heightened by large horizontal inequalities and their negative impacts on social cohesion and integration. In the midst of these frustrations, the perceived betrayal of the NARC dream for social justice, and the contested 2007 presidential elections, led to an ethnic conflict never before experienced in the country. The 2008 intervention by the international community restored a semblance of order in the form of the Coalition Government established in February 2008. Since then, and as Kenya approaches its first general election under its Constitution (2010), extensive attempts have been made to understand the context of inequality and social cohesion in the country. The August 2010 promulgation of the Constitution was just one among the many measures that have addressed the inequality, cohesion and integration problems.

The National Accord process that culminated in the institution of the Grand Coalition government also established the Waki and Kriegler commissions to respectively investigate the underlying causes of the post-election violence and the mismanagement of the elections. Their respective Waki and Kriegler reports’ recommendations would provide the basis of activities to the National Accord’s Agenda 4, which mandated various reforms which are pertinent for attention to real and perceived inequalities, and therefore to the uplifting of trust for greater national cohesion and integration. Amongst other initiatives, Agenda 4 mandated the time-bound promulgation of a new constitution, and reforms to the Judiciary, police and electoral supervision, much of which has already been completed.

The Constitution (2010) has departed from its predecessor by underscoring the sovereign and inalienable right of Kenyans to determine their form of governance, in reaction to domination from the top of the political class which had fuelled actual or perceived inequalities and undermined trust and national cohesion. It reinstates the traditional separation of powers between the Executive, Legislature and Judiciary, and extensively diminishes the capacity of a president to use public appointments, including cabinet positions, for personal or parochial gain. This it does by requiring key public appointments to be vetted by independently constituted committees and approved by Parliament.³⁶ Chapter 4 provides an extensive Bill of

³⁶ Kenya has instituted highly transformative means of hiring key public officers: besides the constitutional provisions requiring Parliament to vet nominees ahead of appointment by the President “in

Rights which secures country-wide access to basic needs. Chapter 5 presents the principles of land management under a National Land Commission overseeing the National Land Policy. Chapter 6 addresses integrity of leadership, which pays attention to Kenya's rampant culture of impunity. Chapter 11 provides for devolution to 47 counties, doing away with the more than 250 administrative districts created illegally by successive presidents (especially between 1982 and 2010). Chapter 12 establishes the principles of public financial management which secure budgetary resources for the counties, removing budgetary discretion from ministries, notably that of Finance. Article 204 in this chapter provides for the Equalisation Fund which is designed "to bring the quality of basic services in marginalized areas to the level generally enjoyed by the rest of the nation, so far as possible." The Fourth Schedule of the Constitution demarcates functions of the national and county governments, which are distinct and inter-dependent, while the Fifth Schedule provides the timeframes within which establish enabling legislative (and institutional) frameworks for the implementation of the Constitution.

Coinciding with the 2008 signing of the National Accord, the country also launched its long-term national development blueprint, *Kenya Vision 2030*, which also seeks to enhance national cohesion and integration in the political, social and economic spheres, by transforming Kenya into a middle income country during the Vision's lifetime. The Constitution has spawned various new policies, legislation and institutions, or strengthened existing ones, targetting national trust, cohesion and integration, many of these initiatives falling under the Ministry of Justice, National Cohesion and Constitutional Affairs. Some of these include:

- National Steering Committee on Peace Building and Conflict Management
- Kenya National Commission on Human Rights Act 2011 and its Kenya National Commission on Human Rights
- Truth, Justice and Reconciliation Act No. 6 of 2008 and its Truth Justice and Reconciliation Commission
- National Cohesion and Integration Act 2008 and its National Cohesion and Integration Commission
- Political Parties Act No. 11 of 2011;
- Ethics and Anti-Corruption Commission Act No. 22 of 2011;
- National Gender and Equality Act No. 15 of 2011;
- Persons with Disabilities Act No. 14 of 2003; and
- Sessional Paper No. 2 of 2012

consultation with the Prime Minister", the public is encouraged to provide character references for applicants.

Sessional Paper No. 2 of 2012 constitutes the national policy on cohesions and integration whose aim is to “ensure that Kenya becomes an equitable society that is politically, economically and socially cohesive and integrated, where the citizens have a shared vision and sense of belonging while appreciating diversity.” Its priority areas of policy interventions will include:

- Strengthening vital institutions for cohesion and integration;
- Addressing socio-economic inequalities;
- Managing ethnic and socio-cultural diversity;
- Conflict prevention, management and reconciliation.
- Ensuring the rule of law, security and order;
- Addressing the unemployment challenge;
- Entrenching positive value systems in all segments of society; and
- Establishing mechanisms for communication and information sharing.

Kenya also has in place various other strategies for enhancing employment and incomes, while also attending to inequalities. In 2005, the government launched a National Policy on Orphans and Vulnerable Children [OVC], which followed the piloting the previous year of a Conditional Cash Transfer scheme designed to enable poor households to take care of OVCs, as well as to enable child-headed households to take care of themselves.³⁷ The government also launched the Women’s Enterprise Fund and the Youth Development Fund, both offering small capital to women and youth entrepreneurs.

The current report is an analytical attempt to understand the nexus between social inequalities and social cohesion and to use that information to propose policies that would promote sustainable development in the country. Using two survey datasets generated by Kenyan government agencies – the KIHBS survey and the 2009 census -- the study has identified the central role of trust in building social cohesion in the country. The econometric evidence presented in Part IV of the report shows that Kenya’s persisting socio-economic inequalities are not conducive to smooth social interactions among individuals and communities. The inequalities instead create mistrust across communities that is not conducive to fostering the desire and feeling of people to remain together as one inseparable society. Further, persisting socio-economic inequalities dampen incentives for *bonding* social relations among communities, such as through trade, marriage, sharing of power, migration, and the financing of public goods. Since social cohesion is both a process and an outcome, its absence fuels mistrust,

³⁷ The objectives of this scheme were to: increase school enrolment, attendance and retention of OVCs; reduce mortality and morbidity rates among 0 to 5 year old children, through immunizations and growth control; promote nutrition and food security by providing regular and predictable income support to poor families with OVC; and encourage caregivers to obtain their National Identity cards, death certificates for deceased parents and birth certificates for children

but is also the product of such mistrust. The statistical analysis shows a negative association between weak social cohesion and trust, and also with occurrence of ethnic conflict. In other words, persisting inequalities undermine trust, creating an environment for ethnic conflicts.

Besides trust reducing the likelihood of conflict, results from the statistical analysis suggest that trust and labour income are positively and strongly correlated; and by extension, trust is also positively correlated with labour employment. Indeed, trust can increase opportunities for inter-communal trade and foster migration from areas with low employment opportunities to those with higher ones. Such inter-community trade and mobility is conducive to reduction in social inequalities and poverty, and to the enhancement in general human welfare. Our statistical analysis reveals a positive correlation between social cohesion (proxied by trust) and labour income, a key determinant of poverty status.

Interventions that would reduce inequality can arguably be linked to greater inter-community trusting relationships, and to lower incidences of ethnic conflicts. These highly interdependent phenomena -- horizontal inequality, discrimination, mistrust, and ethnic conflicts -- are the axis of the vicious circle of underdevelopment. Public policy should identify the most ideal, most efficacious interventions with which to break this circle. Having done that, domestic and international resources should be directed at a set of interventions that build social trust (a set of beliefs that individuals possess and express about other people) that are conducive to peaceful coexistence. The key to creating such a belief system is the reduction in inequalities, particularly across social groups; that is horizontal inequalities. This is the one area where investments can be made with a promise of large dividends because a reduction in horizontal inequality is positively associated with trust, and eventually with social cohesion.

An important question is where funding should be found for the desired interventions. Firstly, under the Bill of Rights, the Constitution already mandates the government to secure access to the very public goods that are likely to diminish perceptions of exclusion and marginalisation, requiring public resources to be appropriately re-directed. Besides the bureaucratic and the technocratic capacity for such re-direction of resources, a critical input will be the political will to reduce horizontal inequalities. Additionally, development partner interventions can assist to jump-start the process. The evidence presented in the report on the connections among inequalities, trust, and welfare outcomes suggest that if social inequalities are successfully addressed, the associated development process can be self-driving through trust dynamics.

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Appendices

Table A1: Selected Descriptive Statistics

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
Ethnic Fractionalisation Index	2706	0.306	0.269	0	0.789
Politically Relevant Ethnic Group	2706	0.589	0.395	0	1
Montalvo and Reynal Querol (MRQ)	2706	0.416	0.3000	0	0.933
MRQ Religion	2811	0.789	0.2006	0	0.987
Post Election Violence	2748	0.247	0.431	0	1
Discrimination	2123	0.486	0.499	0	1
Ethnic group	2808	4.898	3.078	1	9
Diversity	2808	0.210	0.407	0	1
Group Coefficient of Variation, schooling	2706	0.969	0.324	0.204	1.603
Esteban and Ray Index, Kenya (ERK)	2706	0.233	0.132	0.041	0.493
Age (yrs)	2541	39.196	15.388	19	65
Location	2780	0.649	0.477	0	1
Sex	2537	0.560	0.4964	0	1
Distance*	2526	356.5	275.55	16	678
Distance2#	2749	275.6	220.6	0	1039
Density	2746	952.9	1524.39	4.10	4514
Selection	2811	0.561	0.496	0	1
Log of wages	2465	9.049	1.006	7.15	11
Primary_2011	2749	41.206	9.502	22.73	65
Secondary_2011	2749	23.89	6.173	12.07	44.8
Group Coefficient of Variation, Wages	2647	3.94	1.217	1	5
Wage	2647	0.921	0.2006	0	0.99
ERK	2706	0.233	0.132	0.41	0.494

Log of education	2540	1.759	1.088	0	2.890
Age	2541	3.22	1.205	1	5
Log of age	2541	3.594	0.380	2.9	4.17
Age squares	2541	11.84	8.124	1	25
Public goods	1935	0.616	0.486	0	1
ERK wage	2647	0.165	0.193	0	0791
Satisfaction	2709	0.416	2.348	0	122.3
Proud to be Kenyan	2709	0.949	0.448	0.227	24.08
Ethics	2443	0.261	0.439	0	1
Proud to be Kenyan (dummy)	2537	0.945	0.227	0	1
Ethnic distance	2491	0.799	0.400	0	1

*The distance of the nearest major town of an ethnic group to Nairobi (e.g., Kiambu is 16 km from Nairobi). (This is a measure of a group's ability to use social networks and resources of the capital city).

#The distance a respondent belonging to a particular ethnic group lives from Nairobi. (This a measure of the extent of a group's dispersion from Nairobi).

Table A2: Trust and perceptions about fairness in Public Goods Distribution

Variables	First stage OLS (Coefficients)	Instrumental Variable (2SLS) (Coefficients)
Location	-0.0446 (.0268)	-0.040 (.048)
Age	0.037 (.058)	.128 (.079)
Age squared	-0.0057 (.0087)	-0.017 (.011)
Sex	-0.0211 (.023)	-0.049 (.031)
Log of schooling	0.0226* (.0116)	0.040* (.0200)
Satisfaction with provision of public goods		-1.039** (.016)
Constant	0.658** (.098)	1.221** (.276)
R-Squared	.019	.5864
F-Statistics (p-value)	5.79 (.000)	5.79 (.000)
Number of Observations	1803	1803
Number of Counties	45-47	45-47

*p
=.0
5,
**p
=.0
1.

Table A3: Trust and ethnic discrimination

Variables	First stage OLS (Coefficients)
Location	0.018 (.019)
Age	0.070 (.045)
Age squared	-0.0097 (.0068)
Sex	-0.053** (.018)
Log of schooling	0.0006 (.0089)
Discri	-0.104** (.018)
Constant	0.751** (.072)
R-Squared	.022
F-Statistics (p-value)	7.78 (.000)
Number of Observations	2016
Number of Counties	45-47

*p=.05, **p=.01; Discri = 1 if the respondent had experienced ethnic-based discrimination.

Table A4: Correlates of trust (Dependent Variable: Trust =1 if members from other ethnic groups can be trusted)

Variables	Coefficients
Location (1=Rural)	.008 (.018)
Age	.063 (.042)
Age Squared/100	-.008 (.0062)
Sex (1=Male)	-.041 (.017)
Log of Schooling	.007 (.008)
MRQ, Religion	0.295** (.048)
Distance from Nairobi	0.0003** (.00004)
Constant	0.379 (.080)
R-Squared	.027
F-Statistics (p-value)	9.2 (.000)
Number of Observations	2362
Number of Counties	45-47

*p=.05, **p=.01.; standard errors in parentheses. Note: The instrument for trust is distance of residence of a respondent from an ethnic group from Nairobi, which has the lowest ethno-linguistic fractionalization index. This variable captures the extent of dispersion of an ethnic group from the area that is inhabited by all ethnic groups.

Table A5: Determinants of size of Politically Relevant Groups (PREG)

Variables	Coefficients
Location (1=Rural)	-.082** (.015)
Age	-.009 (.005)
Sex (1=Male)	-.014 (.012)
Log of Schooling (years of education)	.0008 (.0012)
Density	.0.00006** (.0000047)
Distance from Nairobi	0.0009** (.00002)
Constant	0.295** (.029)
R-Squared	.497
F-Statistics (p-value)	385.63 (.000)
Number of Observations	2346
Number of Counties	45-47

Table A6: Determinants of selection into Politically Relevant Groups (PREG)

Variables	Coefficients
Location (1=Rural)	.007 (.011)
Age	-.005 (.004)
Sex (1=Male)	.0008 (.009)
Log of Schooling (years of education)	-.004** (.0009)
Density	0.00002** (.000034)
Distance	-0.0016** (.00002)
Constant	1.216 (.021)
R-Squared	.8182
F-Statistics (p-value)	1784 (.000)
Number of Observations	2386
Number of Counties	45-47